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PREMIUM FARM OF THE EMPIRE STATE.

THE New York State Agricultural Society, at its last annual meeting, awarded the first Premium of $50 for the best grain farm in the State to ROBERT J. SWAN, of Rose Hill, near Geneva, N. Y. The report of the visiting committee has not yet been published, but a recent visit to this magnificent farm enables us to allude to some of the principal features in its management.

The farm contains 344 acres, beautifully located on the banks of Seneca lake, about three miles from Geneva. The soil is a clayey loam, forming a part of the ridge which extends from the Seneca river to the southern borders of the county. The summit of this ridge abounds in springs, which render the lower land wet and unproductive.—When, seven years ago, Mr. SWAN purchased this farm, the crop of wheat was so poor that a portion of it was plowed under in the spring, and that which was left averaged only five bushels per acre.

Mr. SWAN sowed only six acres of wheat the next year, being determined to sow only as much land as he could get into proper condition. These six acres were thoroughly underdrained and summer-fallowed, and they produced more wheat than had been obtained from forty acres the previous harvest!

It was evident that though the land had been hard run, and was very foul, yet the soil was naturally good, and needed only good cultivation to make it very productive. The improvement of a three hundred acre farm is not an easy task. It requires no little judgment, perseverance, and skill. Mr. SWAN proved himself fully equal to the occasion. With good judgment, great practical skill, abundant capital, and the most indomitable energy, he vanquished every difficulty with a rapidity which we have never seen equalled.

Underdraining was the first thing to be done. He laid 16,000 tiles the first year. The next year, between the first of August and the first of December, he laid over *seventeen miles* of drains. He reclaimed twenty-four acres of swale land that had hitherto produced nothing but aquatic grasses unfit for hay and pasture, and which are now exceedingly fertile. The work of improvement has gone bravely on from that time to the present, until there is not a wet spot on the farm. There are over *sixty-one miles* of underdrains on the farm, or an average of sixty-three rods to the acre. On the higher and wetter portions of the farm they are laid about twenty-seven feet apart, and from two and a half to three feet deep.

The cost of draining has been about $19 per acre. The drains were dug by contract, at 12½ cents per rod; laying the tiles and filling the drains with plows, cost 3 cents per rod; average cost of tiles and cartage, 13 cents per rod. Total cost, 28½ cents per rod. This is much cheaper than such work usually costs, where it is done on a small scale and by inexperienced hands.

That such an expenditure for underdraining has been exceedingly profitable, no one can doubt who knows what the farm was when it came into Mr. SWAN's possession, and what magnificent crops it now produces.

While underdraining has formed the basis of Mr. SWAN's improvements, it would be erroneous to ascribe his splendid crops to underdraining alone. The land is thoroughly cultivated by means of summer-fallows and hoed crops. It is not overcropped with cereals; clover is sown with an unsparing hand; about nine tons of plaster are sown each year on the pastures and meadows; nearly everything is consumed on the farm except wheat, and, in addition to this, a considerable quantity of oilcake is fed to cattle and sheep. In this way a great quantity of manure is made—and it is *good manure*—not rotten straw.

Let us look into the barn-yard, or rather into one of them, for there are three on the farm. No need to turn up your pantaloons. There is abundance of straw to absorb all the liquid, and the yard is a picture of comfort and contentment. What a magnificent flock of sheep! Eighty well-bred Leicesters, and as fat as good clover hay and eighteen ounces each of oilcake meal per day can make them.

"What will they weigh?"

"They will average over 140 lbs. live weight."

"No doubt about it. This would make their dead weight about 80 lbs."

"How do you get at it?"

"The English rule is to divide the 'fasted live weight' by seven, and call it quarters; so that your sheep, if they weigh 140 lbs. alive, would dress 20 lbs. per quarter, beside the rough fat. Lean sheep will fall short of the dead weight indicated by this rule, and very fat ones will exceed it. There are few sheep in this country that will come up to the standard, but I will bet a life subscription to the *Genesee Farmer* against the poorest sheep in the yard, that these sheep will go ahead of it. The butcher gets the advantage of good feeding, if the the farmer does not."

Let us go into another barn-yard. What comfortable open sheds these are for cattle. They are worthy of good cattle, and here are cattle worthy of the sheds. Look at this lot of eight steers, two years old this spring. They average 1,075 lbs. live weight; have had one quart of oilmeal per head daily, since last fall.

"What do you give for oilcake?"

"Twenty-seven dollars per ton."

"How do you manage to get it at so low a figure?"

"By paying the cash for it, and buying it at a time when navigation is closed and there is little demand for exportation."

"Emery's *Journal of Agriculture* says that American oilcake is about as nutritious as old chips; that all the nutriment is pressed out of it by the present improved presses. What do you say to that?"

"Look at the cattle and sheep, and let *them* answer. Do they look as if they had been fed on sawdust? Come up to the other yard, and look at ninety yearling sheep that have had half a pound each of oilmeal per day during the winter, and see if they do not tell a different story."

"You say your two-year-olds average 1,075 lbs. How do you know their exact weight?"

"I have one of Forsyth's Hay Scales, manufactured in Rochester, and find it very useful for weighing cattle, sheep, etc., as well as for many other purposes. No farmer should be without one."

It is impossible to help admiring the order, system, regularity, and thoroughness, with which everything is done on this model farm. There is a place for every thing, and every thing is in its place. One cause of this is to be found in the fact that Mr. Swan has on his farm several cottages which he rents to his teamsters and other laborers. This gives him steady, married men that he can trust. They are hired by the year, at lower rates than transient hands; and the plan is found advantageous to both parties.

Let us take another look at this fifty acres of wheat before we go. It will be some time before we meet with such another field. It is only too good. It was closely pastured, last fall, and until the first of January, and yet now it is bigger and better than any wheat we have seen elsewhere this year, though the wheat crop generally looks well this spring. Look at that wheat, and you will conclude with us that underdraining, good cultivation, plenty of clover, high feeding, and heavy manuring, *will pay.*

EXPERIMENTS ON INDIAN CORN.

The New York State Agricultural Society has awarded the prize of seventy-five dollars for the best experiment with artificial fertilizers on Indian corn, to the proprietor of the *Genesee Farmer*. Though somewhat too lengthy for our columns, we copy Mr. Harris' report of his experiments entire.

B. P. Johnson, Esq.—Dear Sir:

I send you the results of some experiments with artificial fertilizers on Indian corn. The soil on which the experiments were made is a light, sandy loam. It has been under cultivation for upwards of twenty years, and so far as I can ascertain has never been manured. It has been somewhat impoverished by the growth of cereal crops, and it was thought that for this reason, and on account of its light texture and active character which would cause the manures to act immediately, it was well adapted for the purpose of showing the effect of different manurial substances on the corn crop.

The land was a clover sod, two years old, pastured the previous summer. It was plowed early in the spring, and harrowed till in excellent condition. The corn was planted May 23, in hills 3½ feet apart each way. Each experiment was made on the one-tenth of an acre. It would doubtless have been better to have had larger plots, but I was unable to get sufficient land of similar character to make the requisite number of experiments, on a larger scale. Each experiment consisted of four rows with one row between each plot without any manure.

The manures were applied in the hill immediately before the seed was planted. With superphosphate of lime, and with plaster (gypsum or *sulphate of lime*,) the seed was placed directly on top of the manure, as it is well known that these manures do not injure the germinating principle of even the smallest seeds. The ashes were dropped in the hill, and then covered with soil, and the seed planted on the top so that it should not come in contact with the ashes. Guano and sulphate of ammonia were treated in the same way. On the plots where ashes and guano, or ashes and sulphate of ammonia were both used, the ashes were first put in the hill, and covered with soil, and the guano or sulphate of ammonia placed on the top and also covered with soil before the seed was planted. The ashes and superphosphate of

lime were also treated in the same way. It is well known that unleached ashes, mixed either with guano, sulphate of ammonia, or superphosphate, mutually decompose each other, setting free the ammonia of the guano and sulphate of ammonia, and converting the soluble phosphate of the superphosphate of lime into the insoluble form in which it existed before treatment with sulphuric acid.—All the plots were planted on the same day, and the manures weighed and applied under my own immediate supervision. Everything was done that was deemed necessary to secure accuracy.

The following table gives the results of the experiments:

TABLE SHOWING THE RESULTS OF EXPERIMENTS ON INDIAN CORN, MADE IN 1857, NEAR ROCHESTER, N. Y.

No. of the plots.	Descriptions of manures and quantities applied per acre.	Bushels of ears of sound corn per acre.	Bushels of ears of soft corn per acre.	Total No. of bushels of ears of corn per acre.	Increase per acre of ears of sound corn.	Increase per acre of ears of soft corn.	Total increase per acre of ears of corn.
1	No manure	60	7	67	....	....	....
2	100 lbs. plaster (gypsum or *sulphate of lime*)	70	8	78	10	1	11
3	400 lbs. unleached wood ashes and 100 lbs. plaster (mixed)	68	10	78	8	3	11
4	150 lbs. sulphate of ammonia	90	15	105	30	8	38
5	300 lbs. superphosphate of lime	70	8	78	10	1	11
6	150 lbs. sulphate of ammonia and 300 lbs. superphosphate of lime (mixed)	85	5	90	25	....	23
7	400 lbs. unleached wood ashes (uncertain)	60	12	72	....	5	5
8	150 lbs. sulphate of ammonia and 400 lbs. unleached wood ashes (sown separately)	87	10	97	27	3	30
9	300 lbs. superphosphate of lime, 150 lbs. sulph. ammonia, and 400 lbs. unleached wood ashes	100	8	108	40	1	41
10	400 lbs. unleached wood ashes	60	8	68	....	1	1
11	400 lbs. plaster, 400 lbs. unleached wood ashes, 300 lbs. superphosphate of lime, and 200 lbs. Peruvian guano	95	10	105	35	3	38
12	75 lbs. sulphate of ammonia	78	10	88	18	3	21
13	200 lbs. Peruvian guano	88	13	101	28	6	34
14	400 lbs. unleached wood ashes, 100 lbs. plaster, and 500 lbs. Peruvian guano	111	14	125	51	7	58

The superphosphate of lime was made on purpose for these experiments, and was a pure mineral manure of superior quality, made from calcined bones; it cost about 2½ cents per pound. The sulphate of ammonia was a good, commercial article, obtained from London, at a cost of about seven cents per pound. The ashes were made from beech and hard maple (*Acer saccharinum*) wood, and were sifted through a fine sieve before being weighed. The guano was the best Peruvian, costing about three cents per pound. It was crushed and sifted before using. In sowing the ashes on Plot 7, an error occurred in their application, and for the purpose of checking the result, it was deemed advisable to repeat the experiment on Plot 10.

On Plot 5, with 300 pounds of superphosphate of lime per acre, the plants came up first, and exhibited a healthy, dark green appearance, which they retained for some time. This result was not anticipated, though it is well known that superphosphate of lime has the effect of stimulating the germination of turnip seed and the early growth of the plants to an astonishing degree; yet, as it has no such effect on wheat, it appeared probable that it would not produce this effect on Indian corn, which in chemical composition, is very similar to wheat. The result shows how uncertain are all speculations in regard to the manurial requirements of plants.—This immediate effect of superphosphate of lime on corn was so marked, that the men (who were at the time of planting somewhat inclined to be skeptical, in regard to the value of such small doses of manure,) declared that "superphosphate beats all creation for corn." The difference in favor of superphosphate, at the time of hoeing, was very perceptible, even at some distance.

Although every precaution was taken that was deemed necessary, to prevent the manures from mixing in the hill, or from injuring the seed, yet, it was found, that those plots dressed with ashes and guano, or with ashes and sulphate of ammonia, were injured to some extent. Shortly after the corn was planted, heavy rain set in, and washed the sulphate of ammonia and guano, down into the ashes, and mutual decomposition took place, with more or less loss of ammonia. In addition to this loss of ammonia, these manures came up to the surface of the ground in the form of an excrescence, so hard that the plants could with difficulty penetrate through it. This is a fact which should be borne in mind in instituting future experiments. It would have been better undoubtedly, to have sown these manures broadcast; and I should have done so, except for the difficulty of sowing them evenly by hand on so narrow a plot, without risk of having some part of the manures blown upon the adjoining plots.

It will be seen by examining the table, that although the superphosphate of lime had a good effect during the early stages of the growth of the plants, yet the increase of ears of corn in the end did not come up to these early indications. On Plot 5, with 300 lbs. of superphosphate of lime per acre, the yield is precisely the same as on Plot 2, with 100 lbs. of plaster (*sulphate of lime*) per acre. Now, superphosphate of lime, is composed necessarily of soluble phosphate of lime and plaster, or sulphate of lime, formed from a combination of the sulphuric acid, employed in the manufacture of superphosphate, with the lime of the bones. In the 300 lbs. of superphosphate of lime, sown on Plot 5, there would be about 100 lbs. of plaster; and as the effect of this dressing is no greater than was obtained from the 100 lbs. of plaster, sown on Plot 2, it follows, that the good effect of the superphosphate of lime, was due to the plaster that it contained.

Again, on Plot 4, with 150 lbs. of sulphate of ammonia per acre, we have 90 bushels of ears of sound corn, and 15 bushels of ears of soft corn, ("nubbins,") per acre; or a total increase over the plot without manure, of 38 bushels. Now, the sulphate of ammonia contains no phosphate of lime, and the fact that such a manure gives a considerable increase of crop, confirms the conclusion we have arrived at, from a comparison of the results on Plots 2 and 5: that the increase from the superphosphate of lime, is not due to the phosphate of lime which it contains, unless we are to conclude that the sulphate of ammonia rendered the phosphate of lime in the soil more readily soluble, and

thus furnished an increased quantity in an available form for assimilation by the plants—a conclusion, which the results with superphosphate alone on Plot 5, and with superphosphate and sulphate of ammonia, combined on Plot 6, do not sustain.

On Plot 12, half the quantity of sulphate of ammonia, was used as on Plot 4, and the increase is a little more than half what it is where double the quantity was used. Again, on Plot 13, 200 lbs. of Peruvian guano per acre, gives nearly as great an increase of sound corn, as the 150 lbs. of sulphate of ammonia. Now, 200 lbs. of Peruvian guano, contains nearly as much ammonia as 150 lbs. sulphate of ammonia, and the increase in both cases is evidently due to the ammonia of these manures. The 200 lbs. of Peruvian guano, contained about 50 lbs. of phosphate of lime; but as the sulphate of ammonia, which contains no phosphate of lime, gives as great an increase as the guano, it follows, that the phosphate of lime in the guano, had little if any effect; a result precisely similar to that obtained with superphosphate of lime.

We may conclude, therefore, that on this soil, which has never been manured, and which has been cultivated for many years with the *Ceralia*—or in other words, with crops which remove a large quantity of phosphate of lime from the soil—the phosphate of lime, relatively to the ammonia, is not deficient. If such was not the case, an application of soluble phosphate of lime would have given an increase of crop, which we have shown was not the case in any one of the experiments.

Plot 10, with 400 lbs. of unleached wood ashes per acre, produces the same quantity of *sound corn*, with an extra bushel of "nubbins" per acre, as Plot 1, without any manure at all; ashes, therefore, applied alone, may be said to have had no effect whatever. On Plot 3, 400 lbs. of ashes, and 100 lbs. of plaster, give the same total number of bushels per acre, as Plot 2, with 100 lbs. of plaster alone. Plot 8, with 400 lbs. ashes, and 150 lbs. of sulphate of ammonia, yields three bushels of sound corn, and five bushels of "nubbins" per acre, *less* than Plot 4, with 150 lbs. sulphate of ammonia alone. This result may be ascribed to the fact previously alluded to—the ashes dissipated some of the ammonia.

Plot 11, with 100 lbs. of plaster, 400 lbs. ashes, 300 lbs. of superphosphate of lime, and 200 lbs. Peruvian guano (which contains about as much ammonia as 150 lbs. sulphate of ammonia,) produced precisely the same number of total bushels per acre, as Plot 4, with 150 lbs. sulphate of ammonia alone, and but 4 bushels more per acre, than Plot 13, with 200 lbs. Peruvian guano alone. It is evident, from these results, that neither ashes nor phosphates had much effect on Indian corn, on this impoverished soil. Plot 14 received the largest dressing of ammonia (500 lbs. Peruvian guano,) and produced much the largest crop; though the increase is not so great in proportion to the guano, as where smaller quantities were used.

The manure which produced the most profitable result, was the 100 lbs. of plaster, on Plot 2. The 200 lbs. of Peruvian guano, on Plot 13, and which cost about $6, gave an increase of 14 bushels of shelled corn, and 6 bushels of "nubbins." This will pay at the present price of corn in Rochester, although the profit is not very great. The superphosphate of lime, although a very superior article, and estimated at cost price, in no case paid for itself. The same is true of the ashes.

But the object of the experiment was not so much to ascertain what manures will pay, but to ascertain, if possible, what constituents of manures are required, in greatest quantity, for the maximum growth of corn. All our agricultural plants are composed of precisely the same elements; the only difference being in the relative proportions in which they exist in the plants. Thus, wheat and turnips contain precisely the same elements, but the ash of wheat contains five times as much phosphoric acid as the ash of turnips, while the turnips contain much more potash than wheat. This fact being ascertained by chemical analysis, it was supposed that wheat required a manure relatively richer in phosphoric acid, than was required for turnips.—This is certainly a plausible deduction; but careful and numerous experiments have incontrovertibly proved that such is not the case—in fact, that an ordinary crop of turnips, requires more phosphoric acid, in an available condition in the soil, than an ordinary crop of wheat. From this fact, and several others of a similar character, the conclusion is irresistible, that the chemical composition of a plant—the relative proportion in which the several elements exist in the plant—is not a certain indication of the manurial requirements of the plant; or in other words, it does not follow, that because a plant contains a relatively larger proportion of any particular element, that the soil or manure, best adapted for the growth of this plant, must contain a relatively larger proportion of this element.

Wheat, rye, barley, oats, and Indian corn, all contain a relatively large quantity of phosphate of lime; but it is not safe to conclude from this, that a soil or manure, best adapted for their maximum growth, must also contain a relatively large quantity of phosphate of lime. We know positively from numerous experiments, that such is not the case with wheat; and, it is therefore at least doubtful, whether such is true of Indian corn. On the other hand, we know from repeated experiments, that wheat requires a large quantity of ammonia for its maximum growth, and as Indian corn is nearly identical in composition to wheat, it is somewhat probable that it requires food similar in composition to wheat. This, however, is merely a deduction, and deduction is never a safe rule in agriculture. We can obtain no positive knowledge in regard to the manurial requirements of plants, except from actual experiments. Hitherto, no experiments have been made in this country, on Indian corn, that afforded any certain information on this point. Indeed, we believe no satisfactory experiments have been made on Indian corn, in any country, that throw any definite light on this interesting and important question. A few years ago, Mr. Lawes made similar experiments to those given above, on his farm, at Rothamsted, England; but owing to the coolness of the English climate, the crop did not arrive at maturity.

Numerous experiments have been made in this country, with guano and superphosphate of lime; but the superphosphates used were commercial articles, containing more or less ammonia, and if they are of any benefit to those crops to which they are applied, it is a matter of uncertainty whether

the beneficial effect of the application is due to the soluble phosphate of lime, or to the ammonia. On the other hand, guano contains both ammonia and phosphate; and we are equally at a loss to determine, whether the effect is attributable to the ammonia or phosphate, or both. In order, therefore, to determine satisfactorily, which of the several ingredients of plants is required in greatest proportion, for the maximum growth of any particular crop, we must apply these ingredients separately, or in such definite compounds, as will enable us to determine to what particular element or compounds the beneficial effect is to be ascribed. It was for this reason, that sulphate of ammonia, and a purely mineral superphosphate of lime, were used in the above experiments. No one would think of using sulphate of ammonia at its price, as an ordinary manure, for the reason, that the same quantity of ammonia can be obtained in other substances, such as barn-yard manure, Peruvian guano, etc., at a much cheaper rate. But these manures contain *all* the elements of plants, and we can not know whether the effect produced by them is due to the ammonia, phosphates or any other ingredients.—For the purpose of experiment, therefore, we must use a manure that furnishes ammonia without any admixture of phosphates, potash, soda, lime, magnesia, etc., even though it cost much more than we could obtain the same amount of ammonia in other manures. I make these remarks in order to correct a very common opinion, that if experiments do not *pay*, they are useless. The ultimate object, indeed, is to ascertain the most profitable method of manuring; bnt the *means* of obtaining this information, can not in all cases be profitable.

Similar experiments to those made on Indian corn, were made on soil of a similar character, on about an acre of Chinese sugar cane. I do not propose to give the results in detail, at this time, and allude to them merely to mention one very important fact, *the superphosphate of lime had a very marked effect.* This manure was applied in the hill on one plot (the twentieth of an acre,) at the rate of 400 lbs. per acre, and the plants on this plot came up first, and outgrew all the others from the start, and ultimately attained the height of about ten feet; while on the plot receiving no manure, the plants were not five feet high. This is a result entirely different from what I should have expected. It has been supposed, from the fact, that superphosphate of lime had no effect on wheat, that it would probably have little effect on corn, or on the sugar cane, or other *ceralia;* and that as ammonia is so beneficial for wheat, it would probably be beneficial for corn and sugar cane. The above experiments indicates that such is the case, in regard to Indian corn, so far as the production of grain is concerned, though, as we have stated, it is not true in reference to the early growth of the plants.—The superphosphate of lime on Indian corn stimulated the growth of the plants, in a very decided manner at first, so much so, that we were led to suppose, for some time, that it would give the largest crop; but at harvest, it was found that it produced no more corn than plaster. These results seem to indicate, that superphosphate of lime stimulates the growth of stalks and leaves, and has little effect in increasing the production of seed. In raising Indian corn, for fodder or for soiling purposes, superphosphate of lime may be beneficial, as well as in growing the sorghum for sugar-making purposes, or for fodder—though, perhaps, not for seed.

In addition to the experiments given above, I also made the same season, on an adjoining field, another set of experiments on Indian corn, the results of which I now send you.

The land on which these experiments were made is of a somewhat firmer texture than that on which the other set of experiments was made. It is situated about a mile from the barnyard, and on this account has seldom if ever been manured. It has been cultivated for many years with ordinary farm crops. It was plowed early in the spring, and it was harrowed until quite mellow. The corn was planted May 30, 1857. Each experiment occupied ONE-TENTH of an ACRE, consisting of 4 rows 3½ feet apart, and the same distance between the hills in the rows, with one row without manure between each experimental plot.

The manure was applied in the hill, in the same manner as in the first set of experiments.

The barn-yard manure was well rotted, and consisted principally of cow dung with a little horse dung. Twenty two-horse wagon loads of this was applied per acre, and each load would probably weigh about one ton. It was put in the hill and covered with soil and the seed then planted on the top.

The following table gives the results of the experiments.

TABLE SHOWING THE RESULTS OF EXPERIMENTS ON INDIAN CORN, MADE NEAR ROCHESTER, N. Y., IN THE YEAR 1857.

No. of the Plots.	Descriptions of Manures, and quantities applied per acre.	Bushels of ears of sound corn per acre.	Bushels of ears of soft corn per acre.	Total No. of bushels of ears of corn per acre.	Inc. ears sound corn per acre over unma. plot.	Inc. ears of soft corn per acre over unma. plot.	Total increase of ears of corn per acre.
1	No manure	75	12	87	....	....	....
2	20 loads barn-yard manure	82½	10	92½	7½	....	5½
3	150 lbs. sulphate of ammonia	85	30	115	10	18	28
4	300 lbs. superphosphate of lime	88	10	98	13	....	11
5	400 lbs. Peruvian guano	90	30	120	15	18	33
6	400 lbs. of "Cancerine," or fish manure	85	20	105	10	8	18

As before stated, the land was of a stronger nature than that on which the first set of experiments was made, and it was evidently in better condition, as the plot having no manure produced 20 bushels of ears of corn per acre more than the plot without manure in the other field.

On Plot 4, 300 lbs. of superphosphate of lime gives a total increase of 11 bushels of ears of corn per acre over the unmanured plot, agreeing exactly with the increase obtained from the same quantity of the same manure on Plot 5, in the first set of experiments.

Plot 3, dressed with 150 lbs. of sulphate of ammonia per acre, gives a total increase of 28 bushels of ears of corn per acre, over the unmanured plot; and an increase of 22½ bushels of ears per acre over Plot 2, which received 20 loads of good, well-rotted barn-yard dung per acre.

Plot 5, with 400 lbs. of Peruvian guano per acre

gives the best crop of this series, viz: an increase of 33 bushels of ears of corn per acre over the unmanured plot, and 27½ over the plot manured with 20 loads of barn-yard dung. The 400 lbs. of "Cancerine"—an artificial manure made in New Jersey from fish—gives a total increase of 18 bushels of ears per acre over the unmanured plot, and 12½ bushels more than that manured with barn-yard dung, though 5 bushels of ears of sound corn and 10 bushels of "Nubbins" per acre LESS than the same quantity of Peruvian guano.

Rochester, N. Y. Feb. 8th, 1858. JOSEPH HARRIS.

AMERICAN AGRICULTURAL BOOKS.—No. 2.

*Johnston's Agricultural Chemistry** consists, for the most part, of a number of lectures delivered before an agricultural society in Scotland. They were addressed to practical farmers, most of whom possessed no knowledge of scientific Chemistry or Geology. They commence, therefore, with the discussion of those elementary principles which are necessary to a proper understanding of each branch of the subject. To a young farmer who is desirous of studying chemistry and geology as applied to practical agriculture, this book particularly commends itself. It contains 618 pages, with an appendix of 90 pages, containing suggestions for experiments in practical agriculture, with results of experiments made in 1841–2–3. It is divided into four parts. Part I. is devoted to the organic elements, (oxygen, hydrogen, nitrogen, and carbon,) their nature and sources, and to an explanation of the mode in which they become converted into the substance of plants; Part II., to the inorganic elements of plants, comprehending the study of the soils from which these elements are derived, and the general relations of geology to agriculture; Part III., to the various methods, mechanical and chemical, by which the soil may be improved, and especially to the *nature of manures;* Part IV., to the results of vegetation, to the kind and value of the food produced under different circumstances, and its relation to the growth and feeding of cattle, and to the amount and quality of dairy produce.

It is a work of great value—a monument of the industry of its lamented author. Like all popular treatises on scientific subjects, it is not free from errors; yet, on the whole, we know of no work that we can so confidently recommend to the young student of agricultural chemistry and geology.

A new edition of this work, containing many important additions and corrections, has been published in England. We hope Mr. MOORE may be induced to republish this last edition, or perhaps give us the new matter in the form of an addendum.

* Lectures on the Applications of Chemistry and Geology to Agriculture. By JAS. F. W. JOHNSTON. New York: A. O. MOORE. Price $1.25.

*Johnston's Elements of Agricultural Chemistry and Geology** is a simpler and more practical treatise than the above. Subjects which in the *Lectures* are fully discussed and their *rationale* explained, are here taken for granted or but briefly noticed. Published in 1852, it is a more recent work than the *Lectures*, and contains many facts in regard to the composition of soils, manures, and the various crops grown on a farm, not to be found in that work. Unlike the *Lectures*, it is also provided with an excellent index (for which we are indebted to the American editor) which is very valuable for reference.

The *Elements* should be read before the *Lectures*. The numerous facts mentioned in the former book will stimulate the intelligent student to seek for an explanation—for the *rationale*. This he will be likely to find in the *Lectures*. Take the following extract as an example of the style and character of the book:

"Common salt has, in many districts, a fertilizing influence upon the soil. It destroys small weeds; improves the quality of pastures, and renders them more palatable; strengthens and brightens the straw, and makes the grain heavier per bushel both for wheat and oats."

In the *Lectures*, pages 345–7, the experiments on which these conclusions are based are given in detail, together with some reasons for the effect of common salt as a manure.

Few if any agricultural writers equal JOHNSTON in depth and compass of thought, or in clearness and vigor of style. He was a most extensive, varied, and profound reader, and his writings abound with many curious, interesting, and useful facts. Who but he would think of illustrating his subject with facts derived from MOSES the lawgiver, MOHL the physiologist, and MOFFAT the missionary?

JOHNSTON's hastily written and, in many respects, inaccurate "Notes on North America" were ill-calculated to increase his scientific reputation in this country. For the purpose of encouraging the British farmer under the removal of protective duties on foreign grain, he was led to underrate the wheat-producing character of the land in this country. His opinion on such a subject, if carefully formed, would deserve attention, and it was hailed with pleasure by the free trade party in England. The British farmers were afraid of direct competition with America, and Prof. JOHNSTON told them they had nothing to fear—that the soil was not well adapted to grow wheat and that American agriculture was a hundred years behind

* Elements of Agricultural Chemistry and Geology. By JAMES F. W. JOHNSTON. With a complete Index and American Preface, by SIMON BROWN, editor of the *New England Farmer*. New York: A. O. MOORE. Price $1.

that of England. He did not tell them that he had *never been west of Buffalo!*

But, in spite of these remarks, JOHNSTON is a favorite with the American agricultural public. He is more extensively read here than in Great Britain. One reason of his popularity is that he *applies* science to agriculture. His writings abound with many practical facts, and are characterized by an enthusiastic hopefulness which renders them particularly attractive to the youthful student.

*Stockhardt's Chemical Field Lectures** is in many respects a very valuable work. The author is evidently a scientific man, though this work is not written in a systematic, scientific style. Believing STOCKHARDT to be nearer correct on many very important chemico-agricultural points than any other European writer whose works are republished in this country, we have repeatedly commended his book, in the hope that its perusal would do something toward correcting the erroneous views so extensively disseminated by LIEBIG and his followers. It is, however, better adapted for the general reader than for the young student who wishes to acquire a thorough knowledge of the principles of agriculture. To such, JOHNSTON'S *Lectures*, or his *Elements*, is a better work to *study*, though he might *read* STOCKHARDT with advantage.

We are sorry to see so excellent a work marred by the introduction of a puff of "Mapes' Improved Superphosphate of Lime," which the American editor styles "an invention," the result of "repeated trials." Never was there a more baseless claim; never a greater humbug. We hope this puff will be stricken out of future editions, or inserted merely as an advertisement.

* Chemical Field Lectures for Agriculturists. By Dr. JULIUS ADOLPHUS STOCKHARDT, Professor of the Royal Academy of Agriculture at Tharand. Translated from the German. Edited, with Notes, by JAMES E. TESCHEMACHER. New York: A. O. MOORE. Price $1.

SUGGESTED ITEMS.—No. 20.

PLOWING and sowing is the "order of the day" with us here, this first of April, but I must give a morning to the suggestions of the *Farmer*. To me, there is no reading more entertaining than that contained in agricultural papers; and certainly, no papers deal in subjects in which I am more interested. How a farmer can get along without reading, is beyond my comprehension. But there are such; and however much money they may have, their minds too often are empty and barren—full of prejudice and bigotry.

"*Experiments with Artificial Fertilizers on Potatoes*" show some valuable results. I am glad to see you take hold of the practical in this manner, and hope you will continue your researches. The small effect produced by wood ashes and plaster surprises me. Our trials of these fertilizers were more successful; or so they seemed, at least—for we have never tested them accurately. Pounds, acres, and bushels, show, however, more clearly, and we can not rely on *seeming* merely.

"*Cutting Potatoes for Planting*" is no longer a question in my mind. They should be cut, and not more than two or three eyes planted in a hill, to produce the best possible potatoes in quantity and quality. The cutting, it is said, should be performed ten or fifteen days before planting, and the potatoes left to dry in an upper room exposed to light, which will sprout them slightly and give them a better start. I mean to try this method.

"*Improvement of Impoverished Land*" is an interesting subject, well-treated by that veteran agricultural writer, Dr. LEE. May the time never come when Northern farms shall be so "impoverished" as to produce a mere nothing, like those he describes at the South.

"*To Destroy Canada Thistles*" is decidedly difficult. My little patch grows finely; but I am going to quit cultivating, and go to mowing them. Mowing, in season and out of season, whenever they get up large enough for the scythe.

"*Salt your Stock.*" Yes, and salt liberally. Salt is cheap, and all kinds of stock are very fond of it. Once a week, through the grazing season, is none too frequently, and a little brine on their fodder in winter will do them good. We neglect this matter too often.

"*A Western New York Barn*" is a model structure, and a credit to Mr. ROGERS and old Wheatland.

"*Reflections on Poor Roads.*" A man need not ride fifty miles, or five, to be called upon to reflect on this subject. We have seen that one great want is a free passage for the water each side of the road. When water stands near the road-bed, within six or ten inches of the level of the road, there will be mud and ruts spoiling the same much later than where a free passage is afforded. Many roads are too wide and flat;—but Mr. HOUGHTON is competent to the discussion of the subject.

"*Fancied Facts—No. 1*" cuts closely. Give us more of them.

"*The Farmer's Vegetable Garden*" should receive early and prompt attention. It is profitable to give it—profitable in many ways—even in using up the odds and ends of time of hired men and boys, otherwise worse than wasted. Give each one some part to attend to, and let them see which will do the best.

"*About Chickens,*" a good word is spoken to "farmers' wives." They are generally interested in the matter, and should be so. Hens, ducks, and geese, are all profitable, if kept well and cared for properly. Look to them, farmers' wives and daughters.

B.

Niagara Co., N. Y., April 2d, 1858.

CURING HAY.—A correspondent says, "I usually cut my grass before it is quite ripe. Cut, and get it into the barn the same day. The juciest I put over head, or at the edges. Do not pack down much. Leave a load on the wagon a short time, and scatter some salt upon it. The hay is seldom hurt, but looks green and fresh through the winter."

STAGGERS IN CATTLE.—Give a tea-spoonful of pulverized camphor twice a day. It will cure every case, if attended to in time. H.—*Connersville, Ia.*

NOTES FOR THE MONTH.—BY S. W.

Corn *versus* Root Crops.—As turnips so often fail in our hot, dry, Indian corn climate, and beets, for a large crop, require as much manure as that king of the cereals Indian corn, it should be the rule of all farmers to plant but few roots and much corn for both grain and fodder, being careful, however, to grow enough roots for the cows, or, as sailors say, for greens, to keep off scurvy; and the testimony of the animal is quite as significant as that of the sailors. I have a cow that is messed night and morning, generally with a pint of Indian meal and a pint of oil meal scalded, into which is cut one or two large wurzel beets, which, with water, fills the pail. The cow then, after eating, licks the pail clean; but if the beets or other green substitute is left out, she never fails to leave some of the meal in the bottom of the pail, when she holds up and shakes her head until she gets a cut beet! I feed some early-cut, well-cured hay, which is seven times as nutritious as straw, and the cow gives at least as much milk as two ordinary farm cows, and more than four that have been wintered on straw alone. Her calves at three weeks old are much fatter than any six weeks calves in the market.

Mowing Machines.—E. A. Bundy, of that fine grass region, Chenango county, reasons logically, and makes out a good case against mowing machines as a mere money-saving *institution*. I once asked an astute farmer, who was cutting a very large meadow of heavy grass on a Buffalo creek bottom, if he found a machine profitable, expecting an affimative reply, as the machine did perfect work on that stoneless alluvial flat; but his reply was, "No, if we could get such help as we once got; but there is no dependence on men now; for when you bargain with them and think you have them fast, you have to run after them and hire them over again at higher wages; and when they come, they take advantage of your necessities, and don't work as many hours or as well as they used to at lower wages. But with my machine," said he, "I am independent of the rascally mowers, and common *foreign* help is plenty and cheap." Yet there can be no doubt but that the mowing machine will do away the scythe to the end of the world. No man ever yet went back from machinery to hand-labor, because its unavoidable effect is to emasculate manual labor and make it irksome!

Farming in Georgia.—Dr. Lee writes from Athens, Georgia, that if he had the water that runs through John Johnston's extensive tile drains, to pass it over his fields that now yield only three bushels of corn to the acre, he thinks they would soon yield thirty bushels. This must be doubtful, as he tells us that fifteen bushels of good house ashes (which implies hard wood ashes) produced very little effect. His soil evidently wants nitrogen, or carbonaceous matter to produce nitrogen as it decomposes; and I trust that the water from Mr. Johnston's drains contains very little organic matter after being filtered through three feet of heavy clay loam. We who live in the ever-blessed grass regions of the North, know very little of the trials of the poor southron to keep up, not the fertility, but the breath of life in his soil. The hot, dry climate, and long drouths there, are death to the herbaceous grasses; and, as Dr. Lee says, when the soil is run below the cow-pea-bearing point, it is past renovation by the plowing in of a green crop for manure. I once took a Georgia planter to visit the farm of John Delafield. When he saw the large-growing Indian corn, the hills three feet each way and four stalks to the hill, with an ear to each stalk, he exclaimed, "How do you keep such close-planted corn from *fireing?* We have but one stalk to the hill, and have the hills six feet apart. If we had it closer, it would fire, and we should not get an ear." But that which delighted him most was the great milch cows, with their large udders fully distended so long before milking time. This was to him a desideratum in farm economy which, he said with a sign, "the South could not hope to attain."

Transplanting Evergreens.—Much has been said and printed, of late, about the most successful mode of transplanting evergreen trees. A correspondent of the *Ohio Cultivator* says that he pulled up a young hemlock by hand, shook off the soil from its roots, and carried it four miles in a hot sun before he planted it; yet, strange to tell, it lived and grew well. But the considerate editor explains the miracle to his credulous readers, by saying that they might all have the same "success in transplanting the natives," if they only had such nice *springy* soil as that of his favored subscriber; "but to attempt it on a dry soil, with a thirsty subsoil, is labor lost." To succeed well in transplanting evergreens from a moist or springy location to a dryer one, the large extending roots of the young trees should be cut off two or three feet from the tree the year before it is transplanted. This will induce a large growth of short roots. These may be taken up undisturbed, with a large ball of earth from the base of the tree. Other soil from the same place should be filled in around the young tree in its new and dryer location, and it must also be watered in dry weather, at least until it begins to show signs of renewed life. But, of all trees, the hemlock is the most difficult to acclimate in a dry, calcareous soil. Better substitute the not less beautiful red cedar; because, on such a soil, the hemlock, if it lives, is always unthrifty and dwarfish, while the red cedar finds its best nutriment in a dry, warm soil; and although it may not attain so large a size, it is never more beautiful than on the interstices of the precipitous limestone cliff.

The Hollow Horn.—I was in hopes that after John Johnston gave the quietus to the inquiry for the best cure for sheep ticks, that we should hear no more queries from men ycleped farmers, how to kill sheep ticks or cure the hollow horn. Although I have always kept at least one cow, I never had to cure but one of the hollow horn. As soon as this disease was known, I said to myself, "thou art the man," as I knew it was caused by my own neglect. Who ever heard of the hollow horn afflicting animals that were warmly stabled in winter and well fed with nutritious food. But the best cure for the disease, when prevention has been neglected, is to rub a little spirits of turpentine in the hollow between the horns, then a drench of linseed oil, and daily scalded messes of Indian meal or oil meal, roots, etc., with early-cut well-cured hay. Boring the horns is a traditionary cruelty.

Mr. Lewis, of Palmyra, Ohio, has a mare that had a healthy foal when *thirty-two years old.*

TO DESTROY CANADA THISTLES.

Our offer of a Premium for the best essay "On the best Method of Destroying Canada Thistles," called out many excellent articles on this subject, a few extracts from which will be interesting:

"I have succeeded in killing these pests simply by mowing them when they were in bloom, always aiming to cut them just as a warm rain is commencing. If some survive, I mow them in the same way the next year. All who have had dealings with them must know that, though the roots may be essentially cut up with the hoe, they still live, and seem to *thrive upon persecution;* but on mowing them as here directed, the stump will die, and afterward the root. N.—*New Hampshire.*"

"As soon as the ground is sufficiently dry to work well in the spring, plow not less than eight inches deep; if deeper, all the better. Sow three pecks buckwheat to the acre, harrow lightly before sowing and also lightly after. Bushing it in is still better, if convenient. When the buckwheat is about six or eight inches high, plow it all in, covering tops as much as possible, and as near the depth of the first plowing as may be, crossing the first plowing. This crop will ripen early enough for sowing winter wheat or rye. Commence plowing again as at the first time, and about as deep.—Sow wheat or rye, as the case may be, and in the usual way of harrowing it in. Should it be desirable to seed for meadow, it will only help to exterminate the thistles, which will be few and far between at the time of mowing. Cut the grass as soon as it is in blossom the first and second year. D. P. S.—*Westmoreland, Oneida Co., N. Y.*

"Canada Thistles should be kept down either by hoeing or plowing. A plant, weed, or tree, can no more live without leaves than a person can live without lungs; therefore, if no leaves are permitted to grow, they must die. This I know from experience, having killed several patches on my farm. If a hoe is used, they should be cut off as deep in the ground as you can strike the hoe; and don't leave it for the boys and hired men to do, but do it yourself, and see that no green thing is left. If a plow is used, once in two or three weeks will be often enough. One summer will use them up, if it is thoroughly done. Be sure to attend to them often in the months of July and August, for Nature will make powerful efforts during this time to produce seed for the propagation of the species, for that is her great object; and this effort on the part of Nature will draw hard upon the roots, and weaken them so much that if they are cut at this season of the year they are pretty sure to die. I once cut a patch of them regularly once a week. They continued to sprout up all through the season, without any diminution, until the latter part of August, when I cut them for the last time and sowed the ground to wheat. Not a thistle has shown itself there since. C. C. Wilson.—*Newfane, Niagara Co., N. Y.*"

"This king of pests is a perennial, propagating itself by winged seeds, suckers, or layers; grows any where, thrives most on a rich soil; has a deep, rapidly-growing, horizontal root, from which it throws up shoots at short distances and spreading in all directions, shortly occupying the whole field, from which they are not easily eradicated.

"To the farmer who has but a few patches of them on his farm, I would say, cut off the tops as fast as they appear above ground one season, and you effectually kill them, root and branch. This method I have frequently tried to my entire satisfaction, and on it I would mainly rely for their sure destruction. Where large fields are covered with them, if meadow, always mow them when in blossom. After a year or two you will find them rapidly diminishing. If pastures are covered with them, mow them as often as they get six or eight inches high, and in two years you will have but few left.

"A heavy crop of buckwheat, followed by oats, and seeded to clover, will almost entirely destroy them.

"These are a few of the many methods by which they may be greatly diminished, and then apply the 'sure cure,' or, in other words, keep them under ground with the hoe one season, and the work is done. H.—*Walton, N. Y.*"

THE CULTIVATION OF ONIONS.

Among the crops which may be grown by farmers convenient to city markets, we may name that of Onions as one readily produced and generally saleable at remunerating prices. Perhaps a brief statement of the Connecticut method of growing onions may be of interest to a portion of your readers, who may be thus situated, and whose circumstances may lead them to devote a portion of land to the culture of this valuable esculent.

The best *soil* for onions is a sandy loam of a dark color, though any loamy soil will produce them. A dark color can be given to sands or loams by a dressing of muck; and this, well decomposed, is often used successfully on this crop. All stones and sods should be removed, that the drill may do perfect work, and that the rows may be uninterrupted by any obstruction.

The best *manure* is thought to be that from stables where the horses are fed freely with grain, well decomposed, so that it may be thoroughly mixed with the surface soil. Leached ashes are also of high value—more so than unleached. Any good compost manure may be used successfully, if enough is applied; but that pretty active and quickly operating, is the best.

To *prepare* the soil, manure freely and then plow thoroughly, and harrow until in very fine tilth. Onion growers do not generally plow very deep—usually six or seven inches; but the fact that better crops are obtained after carrots, shows that deepening the soil is useful. The preparation should be given as early in the spring as the season will admit.

Those who *raise* their own *seed*, have found it to their interest to select the best shaped and most desirable onions for that purpose, and have thereby much improved the product. Plant early, and gather the seed as soon as ripe. Keep it in a dry, cool place, until wanted for use.

Different *varieties* have their seasons of popularity. The *Silver Skin* is much admired; the *Red* is thought the best for shipment; the *White Portugal* is milder flavored, but does not keep as well.

For *planting* an acre, from three to four pounds of seed are required. The seed is put in with a

common drill machine, in rows about fourteen inches apart and less than half an inch deep. If the seed is not first rate, it is better to double the quantity than to have them too thin. They should stand from an inch to an inch and a half in the rows. The seed may be tested by sprouting a small quantity in boiling water. If it is good, it will sprout in fifteen or twenty minutes.

Thorough *weeding* is of much importance with the onion crop. The plants are very small when young, and will not bear any rough treatment; so the fingers are the only machine which can be depended upon for the first weeding and thinning. Much labor may be saved by allowing no weeds to ripen on the land, and using manure free from their seeds. The onion hoe, an implement attached to wheels, is a very complete instrument for cleaning the ground between the rows of this or any other garden crop.

Their greatest *enemy* is the grub or cut-worm. They work in the night, but their tracks are easily found by the rootlets and withering plants which mark it. The only remedy is capital punishment. Cleaning the ground in the fall will lessen their numbers—or plowing at the same time. Wet summers sometimes induce them to form scullions with thick stems instead of good bulbs. Breaking the stems by rolling an empty flour barrel over the ground, or other means, is sometimes employed.

An *average crop* is five hundred bushels per acre.

R. N. Y.

CHINA BERRIES.

D., of Gates, N. Y., wishes to know what "China berries" are. They are the fruit of the *Melia Azedarach*, or great *Indian Lilac*—a tree of uncommon beauty, introduced into the Southern States from China, and hence the common name. It is now naturalized, and grows everywhere in the south. It is a popular shade tree for streets, and the wood makes most beautiful furniture—not inferior to *satin*-wood—and is of quick growth. The seeds are very hard, and are covered with a pulpy *pericarpum*. Every part of the tree—the leaves and seeds—are highly odorous, and possess powerful anthelmintic properties. A decoction of the root is a favorite vermifuge, and in the hands of a good chemist, would likely supercede "Fahnestock" or the "Dead Shot," as a saleable article for this purpose. The berries will expel all worms and grubs from the soil, when applied as manure. The first use of them, as an expeller of the skipper fly, while smoking bacon, was communicated to me by Col. A. P. Calhoun, President of the State Agricultural Society of South Carolina, and I published the receipt originally in the *South Carolinian* newspaper. The tree in the north, and in England, is a beautiful greenhouse shrub. Here it attains a height of fifty feet in a few years. A tree here, ten years old, would produce at least as many bushels of fruit.

A. G. SUMMER.

Pomaria, S. C.

Hollow Horn.—The practice of our vicinity is to give the animal better keeping, and a few doses of Ohio Kercuma in whiskey. This may be given to suit the size of the animal, which is usually one-fourth of an ounce of Kercuma to half a pint of whiskey. B.—*Harpersville, N. Y.*

UNDERDRAINING.

Editors Genesee Farmer:—In the March number, Lot Lindley, Sylvania, Ind., wishes to obtain practical information on underground draining.—If none of your numerous correspondents send in a better method, you may publish this.

It is now nearly forty years since I laid the first drain, and I have made them of different materials, but where stones are convenient, I prefer them to any other. The last five years, I have used tile, but, except the first year, I put stones along the sides of the tile, and over them to the depth of six inches, which prevents the tile from moving or filling up. I know the tile manufacturers will tell you that there is no danger of them filling up, but I have proof to the contrary. The principal drain ought to be from three to three and a half feet deep, and one and a half feet wide at top and one foot wide at bottom. All the earth ought to be placed along the one side; and if it is sod land, the sod ought to be kept near the edge of the drain, so as to put them on the top of the stone, the grass side down. When the drain is open, I commence at the highest end, and if the bottom is soft, I put a hemlock board on the bottom and lay my tile on it, which keeps the tile from sinking. I prefer three or four inch tile of the horse-shoe make. When I have laid a few yards of tile, I commence putting in stone. I do not throw in the stone at random, but place them carefully on their ends, so that the water will made its way through them. When the first row of stone is in, the stone that go on the top may be thrown on, but care must be taken not to break the tile. When I make the drain with stone, I lay the stone on each side to the height of six or eight inches, and cover with flat stone, which forms a small culvert. The cross drains that lead to the main one may be made small. I cover the stone with the sods, grassy side down, straw or corn stalks, and then fill in the earth. I have seen very good drains in stiff clay land, made with stakes about three or four feet long, placed lengthwise to the depth of one foot. The bottom of a stake drain is made in the shape of a V.

It would be easier to give the desired information, if friend Lindley had described the ground to be drained, as some land is too wet for underground drains. In such cases, a good open drain with side cuts running into it, is all that can be done till the ground becomes solid. Where the ground is not naturally wet and sponge, good deep plowing is preferable to draining, and much cheaper.

Troy, N. Y. April, 1858. JOSEPH CALDWELL.

Mad-itch in Cattle.—A correspondent wishes to know the cause and cure for the mad itch in cattle. It is in most cases caused by letting the cattle eat of the corn stalks where hogs have been eating green corn. The hogs leave the entire lot chewed fine, which the cattle eat, and in a few days they take the mad-itch. I have seen farmers lose whole herds with it.

The best thing I know of to cure this complaint, is to give one pint of melted lard three times in an hour. Sweet oil is better. Drench the animal with cold water. The chewed stalks lie dry in the manifold, and if the beast can be made to take enough water to moisten the cut, it will recover. H.—*Connersville, Ind., Feb.* 16, 1858.

THOUGHTS BY THE WAYSIDE.

When I see a mass of chips accumulate in a farmer's back yard, remaining year after year, thinks I to myself, if the coarser ones were raked out, they would serve for fuel, while the finer parts, with the addition of soap suds, etc., from the house, would afford a valuable source of manure.

When I see the banks of manure resting against a barn in the summer season, serving only to rot the building, thinks I to myself, that manure might be employed.

When I see plowing done year after year in the same track by the side of a fence, forming a gully or bank of considerable height, and of course a corresponding leanness in the interior of the field, thinks I to myself, there is a great want of good husbandry.

When I see fruit trees loaded with twice the top necessary for bearing well, and this perhaps partly dead, thereby keeping the needed rays of the sun from the under crop, thinks I to myself, here is an indication of bad husbandry.

When I see stones piled round the trunk of a fruit tree, thinks I to myself, here is an invitation to suckers and to mice; and if dull scythes should follow, it would not be strange.

When I see a total failure of a crop of Indian corn, thinks I to myself, if that man had bestowed all the manure and two-thirds of the labor on half the ground, he would have had a fair crop.

When I see a farmer selling his ashes for ten cents per bushel, thinks I to myself, he had better have given the purchaser fifty cents to leave it for his corn and other grain. J. T. SERGEANT.

Sergeantville, N. J.

SOIL ANALYSES.

Editors Genesee Farmer:—I am truly glad to find in your February number a moderate portion of *common sense*, mingled with scientific speculation, on the "analyses of soils." I have neither the skill nor the patience to pursue the sub-division of matter to the *millionth part of a grain*, as some pretend to have done; and if I had, I have no confidence in any benefit to arise from such experiments. When I take into view the absolute impossibility of selecting a small parcel of the soil of a field, that shall indicate correctly the productive powers of the field, and the many casualties incident to any such experiment, I am satisfied that but little reliance can be placed upon them. I would not discourage any rational attempt at scientific improvement, but when such attempts are forced beyond the limits of propriety, as has sometimes been done, by Messrs. Lee and others, the reaction is tremendous.

So Dancers, Mass., April, 1858. JOHN. W. PROCTOR.

Lice on Calves.—I think that lice on calves are much like ticks on sheep. If Mr. Avery would give his calves plenty of good hay, corn and oats, good water, and warm and comfortable quarters during the winter, he would not have any use for oil to drive off lice in the spring, not saying but flax seed would be very good feed for them. But I never knew an animal in good condition that was lousy. A. Hoosier.—*Mt. Jefferson, Ind.*

ADVANTAGES OF MOWING MACHINES.

Editors Genesee Farmer:—In reading the long letter of E. A. Bundy, of Oxford, N. Y., (see *Genesee Farmer*, page 115,) I came to the conclusion that it was such absurd nonsense, that it required no answering; but on showing it to several of my neighbors, they say "the man must be a ———, or interested in the manufacture of scythes," and "that it ought to be answered by all means." My own opinion is that if you, Messrs. Editors, did not occasionally like a spicy argument, you would not have published such a long rigmarole. Still, we farmers here may all know little about the farmers around Oxford, Chenango County. Perhaps their carelessness and bad habits may incapaciate them for using horses in mowing. Men that can not go to the village without "talking long and loud, and getting down before they get home," are not competent to use even scythes. It also may be true that the introduction of labor saving machines, in the town of Oxford, Chenango County, may be the cause of an unwonted degree of idleness. If such is the case, they have got the labor-saving mowing machines before they were fully prepared for them. It shows the people need reforming or educating, before they can appreciate the value of a mowing machine. And it is just like men that can not come home from the village without getting down, "to talk long and loud about it, or pitch it into the road." I wonder if Mr. B, had not just come from the village when he penned that letter. Thanks to the Temperance cause, we have no such farmers here. Mr. B. might as well try and convince the farmers in this part of the country to use spades in place of plows, as to get them to "pitch their machines into the street" and go back to their scythes; or to take their grain to Albany or New York by wagons, in place of boats; or to take their own horses to go a journey, when they can travel on railroads at about one-third the expense, as to try to make them give up mowing machines. The revolving Horse-rakes, Reaping Machines, Thrashing Machines, and Mowing Machines, are farm implements that are destined to be in use until time shall be no longer, let Mr. B. and the Chenango farmers write what they may. One of the best farmers in Oneida County was with me when I received the *Farmer* with Mr. B.'s article in it. I showed it to him. He said he had used a mower some years, and if he could not get another, he would not sell it at any price. He has a son not yet sixteen years of age, and for the last two years that son, and one pair of horses and mower, has cut from 80 to 100 tons of hay yearly. There is no use of my going into a calculation, to show the saving of cutting by machines. As a machine cuts and spreads atthe same time, in heavy grass, you can cut and spread by a machine nearly as cheap as you can spread it by hand labor.

We put our mowing and reaping machines under cover here, and I have known some farmers so careful, that they would bring them home every night, lest there might be a loafer that had stopped "late at the village talking long and loud," and out of spite break the mowing machine.

Near Geneva, N. Y. JOHN JOHNSTON.

This is rather severe; but friend Bundy is able to defend himself.

CUTTING AND CURING CLOVER HAY.

Editors Genesee Farmer:—According to the thirty years of close observation made by the writer of this article, there is but one method of curing clover hay which pays well for the labor, and that I shall describe shortly.

Observation has taught me, that *the best time for* cutting clover, is when two-thirds of the blooms begin to turn brown. At this stage it makes the best hay, and is not sappy enough to reduce much in the curing process.

When the clover is in the above stage, cut it as rapidly as possible; but *never cut when there is dew or rain water on the clover.* Let the green clover be put in small shocks as fast as cut down, so that the sun might not wilt it. When enough is cut and shocked for a large stack, haul up and stack as fast as possible. The stack should be some 14 or 15 feet at the base, and 16 or 18 feet high, so put up as to make it the shape of a cone. With a hay fork, let *one hand* throw up the green clover, while *two hands* stack and trample it, so as to make it as near *air tight* as possible. Every foot in height should have about one quart of salt sprinkled regularly over it. This will require about 75 pounds to the stack. In finishing, top it off and rake it down so as to turn rain. In ten or twelve days it will become wet and hot, and smoke like a coal kiln, so as to have all appearances of rotting; but in ten or fifteen days more, it will cool off, and be found dry, bright, sweet hay.

If the clover were allowed to wilt before stacking, the hay would be dark and mouldy; but if put up green, the hay will be bright green, and sweet, and free from mould. This process preserves all the leaves of the clover, so certain to be lost by any other process; and it also preserves all the volatile constituents of clover, which are sure to be lost when it is cured in the sunshine or open air.

The whole management may be summed up in a few words. Cut and stack free from moisture, in the perfectly free state; salt it well, and make the stack as near air tight as hard tramping can make it.

Rome, Tenn. F. H. G.

CURING HAY.

Cut your hay always before the blossom of the grass is off. Hay cut in August, dead ripe, and put in the same day, weighs well, is got in cheap, and is about as valuable as a ton of small sticks. Keep rain and dew off your grass when cut. Hay caps and nothing else will do this. Hay, when half dry and fairly wet through, is equal in value to a drawing of tea after it has been *once used.*

Begin with your mowing machine at 8 o'clock in the morning, and by 12 o'clock you have four acres (eight tons of grass) cut and spread. I want two men with the machine, as it saves time. At 4 o'clock, begin to rake and put in cocks of about 50 lbs. This is easily done by sundown, and all covered. On the second morning, take off your covers, open the hay for a few hours, and put two or three together, and cover again, which can be done before it is time to rake up your second day's four acres of cuttings. Generally, the large cocks need not be touched again; but if they get too warm, one hour's opening will cure them perfectly. Cover again, and you may draw in at your leisure, for rain does no injury. Hay got in this way, with wages at $1.50 per day, costs about $2 per ton to get it, including wear of hay caps and all expenses, and is worth twice as much as the hay got by my neighbor S., who cuts his in the morning, carts it in from the swath, and got his in last year for 86 cents a ton; but as he does not feed it, but sends it to New York, it weighs well, and makes no difference. As he makes and buys no manure, how will his farm look in five years? WM. H. DENNING.

Fishkill Landing, Dutchess Co., N. Y.

SAINFOIN IN CANADA.

Editors Genesee Farmer:—Should you consider the following account of Sainfoin of any use, I can vouch for the truth.

When living in Woodstock, I visited a piece of land of a light sandy loam, and there sowed some Sainfoin seed. It came up well; but from the ground being full of weeds, the plants were small. However, I collected seed by hand-picking it, and on my removal to my present farm, I transplanted several roots. This was in the month of June, and checked its growth very much. The next year, I again collected seed; but about the third year after the transplanting, they were much hove by frost, and I then ploughed them in.

I think this shows that our climate is as favorable for sainfoin as for clover. THOMAS H. WATT.

Woodstock, C. W.

SOWING GRASS SEED IN THE FALL.

Editors Genesee Farmer:—It has been my invariable practice to sow Timothy seed in the spring, with one exception. Some years ago, I purchased my seed in the spring, except Timothy seed, for about five acres of barley. I expected that toward the end of the season, seed would be cheaper; but when the time of sowing came, I could not get it at all; so I seeded it with clover, and after harvest, about the first of September, I sowed about six quarts of Timothy to the acre, right on the stubble, *without harrowing.* The first year I pastured it, being principally clover; the secon year, more than half Timothy, which I mowed, and it was, I think, the thickest seeding that I have ever had. The land was clay loam.

Duanesburgh, N. Y. C.

Dutton Corn.—In very favorable seasons, the Dutton corn is one "of the very best varieties of field corn," but it is not so early as some other varieties. After trial of several varieties, I would say to "A Beginner," we have settled on the eight-rowed yellow, as yielding largely, maturing early, husking easily, and having a small cob-curing well. Others may prefer the Dutton—the Yellow or White red-blaze, the White Flint, or the King Philip—we have tried them all and discarded them, for the above named kind. Seed corn *warranted to yrow,* of all varieties, is scarce. J. H. B. —*Royalton, N. Y.*

A Great Layer.—I have a hen, a mixture of the common dung hill and the Chittagong, hatched last May, which has now laid eighty-five eggs.—Who can beat this? The hen was fed on corn. H. Altfather.—*Berlin, Pa., March* 10, 1858.

WHICH ARE THE BEST HORSES TO WEAR, THOSE FIFTEEN OR SIXTEEN HANDS HIGH?

EDITORS GENESEE FARMER:—Size is generally the measure of strength. In all unsubjugated races of animals, the largest hold dominion; and what is this but the evidence of superior courage, strength and endurance? I do not see any reason why the horse, when domesticated, should constitute an exception. Perhaps our ideas of "horse-flesh" are influenced by what we have heard of Arabia and the turf, where fleetness is chiefly in demand. In Arabia, the horse must be small; climate, food, and service, have made this the inexorable rule. In England, formerly, size was not regarded as of much moment; but latterly, great and successful efforts have been made to increase it, even in the race horse; and if something has been lost in bottom, much has been gained in power and length of stride. Bottom, technically speaking, is only found in Arabia, where the horse can go at full speed twelve or fourteen hours. In England, or America, he can hardly sustain himself for as many hours. But the turf and the desert are very different from the farm. The slighest study of the race horse ought to satisfy any one that this animal is only fitted for a few minutes of strenuous effort; he can only run, giving a succession of leaps till exhausted. His form is, in every essential point, in strong contrast to that of the horse of all work, the only one suitable to the farmer. But should this latter horse be sixteen hands high? Are sixteen hands worth more than fifteen? Will it go as far, endure as long, and cost no more to wear out the living machine? If bottom and form are equal, the answer is easily given. The task being lighter in proportion to size, the large horse can do it easier; and doing it easier—not wasting so much power—he wears longer. But is there anything wrong in sixteen hands? Is this point fatal to stamina and strength? Does wearing capacity increase till fifteen hands are gained, and is it lost in the additional four inches? Certainly there is no reason, theoretically, for an answer in the affirmative; for that height does not at all touch the question of monstrosity. Practically, the horse of sixteen hands, in the same number of strides, goes farther; being heavier, he throws more weight into the collar; and form being equal, his action is as elastic and spirited. In doing the same amount of work, less muscular energy is expended; and after the equal task is accomplished, having a greater fund of power unexhausted, he recovers from fatigue sooner, and thus enjoys a longer period of repose.

Doubtless a good horse of fifteen hands will outwear a mean one of sixteen; but with equal form and bottom, in performing equal tasks, theoretically and practically, at all work, sixteen hands will outwear fifteen. In argument the preference is generally given to the smaller horse, because it is assumed that he has *necessarily* form and bottom, when in fact there are as many lazy, spiritless horses of fifteen as of sixteen hands. Perfection of form belongs no more to one size than the other. It is in both cases, and in both alike, a matter of breeding and feeding.

I conclude with one remark: Trust much to the *breed*, but more to the *manger*. Feed well, under all circumstances, and at all times. Starvation dwarfs, deforms, and enfeebles; abundant food develops the natural form—gives action, endurance and docility. In *horse-flesh*, and in *all flesh*, good feeding is the foundation of good service and durability. Many vices and much bad temper springs from the ever-teasing, nervous irritability of the half-fed horse. BREVIX.

MY "TROUBLES."—STABLES FOR STOCK.

EDITORS GENESEE FARMER:—Allow me to thank Mr. GUERNSEY for his kind prescription in my case, and to say to him that I intend to test his remedy another winter. I think mangers and stalls can be made through one of my largest sheds, which will work well, and allow me still to use it for sheltering the manure, at least, made by the cattle while confined in it. The mangers will be made on a frame so that the whole can be raised or lowered at pleasure, and the stalls will be separated by swinging partitions, so that the stock will need no tying, and it will be less difficult to keep the floor level and well littered than if they were stationary. Perhaps I shall be able to get up drawings for insertion in one of the later numbers of this year's *Farmer*, if the editor thinks it worth the trouble. Some trial of stabling stock has convinced me that they will do better if let out into a good yard all that part of the day when not occupied in taking their meals, than to be confined closely a greater share of the time. It is clear also to my mind that they will take no injury from leaving the manure under them, if *it is kept well littered*, as it easily may be with refuse straw and cornstalks. A great additional saving will be made of the liquid manure—a saving of one-third at least of the fertilizing product of the stock. These opinions, found upon experience, having wintered calves as well as cows upon their manure, and keeping them as clean and comfortable as though in a stable cleaned out twice a day—besides making a much better article of manure. Indeed, increasing the quality of the manure was my great object, and not as some may suppose, to save labor, though that is no small item with a dozen head of cattle to attend to. J. H. B.

ALPACA—PACO OR PACA—A Species of Llama.

ATTENTION has of late been called to this family of animals, in consequence of an importation, and subsequent sale, of some of them at New York. The term *Llama* is applied to a genus embracing several species, to which some naturalists have given the name *Auchenia*. In many respects it resembles the camel (*Camelus*,) and the llama was formerly sometimes called the South American camel. It is indigenous to Peru and other portions of South America, its natural habitat being the elevated regions immediately under the line of perpetual snow. The specific divisions of the genus are not very well defined; but without entering upon the disputed points of zoologists in relation to this matter, we give what MARTIN regards as the distinct species, as follows:

"1st. *Tame and Wild.*—The guanaco, guanacu, or huanacu, commonly called in its tame state the llama (*Auchenia llama.*)

"2d. *Tame and Wild.*—The paco, paca, or alpaca (*Auchenin alpaca*, Desm.)

"3d, *Wild.*—The vicuna, vicugna, vigogna, etc. (*Auchenia vicuna.*)

THE ALPACA, A SPECIES OF LLAMA

"4th. *Wild.*—The targua, or taruca (*Auchenia taruca nobis.*) A doubtful species respecting which we require more precise information. It may be the wild alpaca. Some zoologists consider that there are only two really definite species, the guanaco and the vicuna."

All the llama family are wool-bearing animals, the fleece entering into the composition of fabrics which pass, commercially, under the name of *alpacas.* The coarsest is produced by the guanacu, or llama, and the finest by the vicuna, that of the alpaca being intermediate between the two former. The llama is used extensively in some South American countries, as a beast of burthen, and is able to carry from 150 to 200 pounds on its back, over rough, mountaneous paths, where other animals could not travel. Their flesh is sometimes used as food for man, but is not considered very palatable, even by those who have been accustomed to it.

The object in introducing this animal into the United States, seems to be chiefly the labor they might perform, and their wool. It is doubtful whether we have any opening for them in the former capacity—especially if the Arabian camel succeeds as well as appearances and statements seem to indicate, in the trials now going on in transporting burthens across the country to California.

The llamas lately offered for sale at New York, were thirty-eight in number—seventy-two having been started from Peru last autumn, of which thirty-four died on the way, or soon after landing in this country. We learn from the *Tribune* that the attempted sale by auction was unsuccessful, only $96 per head being offered, which was considerably below the demand of the owners. It is stated, however, that a male and two females (the latter supposed to be with young) were finally sold at private sale to Mr. CAMERON, an Australian shipping merchant, for $340. It is said they will be forwarded by the first ship to Sydney.

An impression prevails that the llama had not been introduced into this country previously to the late importation, above alluded to. This is a mistake, as specimens have frequently been brought here, though no large number has arrived at one time. A gentleman in this vicinity now has several—four or five, if we remember—which run in his fields as quietly as cows, and we believe they have bred here—at any rate, some of them have the appearance of being quite young. They are kept merely as a curiosity, and attract much attention from passers-by.

A few years ago, much discussion took place in regard to the introduction of the alpaca into this country. We are not aware, however, that any were imported. Some have been introduced into Great Britain, but as we have heard nothing from them for some time, it is probable that they have either died, or do not thrive in a manner to render them objects of much consequence. The Earl of Derby propagated them at Knowsley Park, and they were tried in the Highlands of Scotland.

The vicuna is described as a much smaller animal than either the llama or alpaca—though the latter is too small to be used for carrying burthens. The fleece of the vicuna is said to be as much superior to that of the llama or alpaca, as that of the Merino sheep is to the English long-wooled breeds. The wool is described as silky, and of extraordinary fineness, the length being from an inch to three inches. Yarn made from this wool sometimes sells in England as high as three dollars a pound. Thousands of these animals are every year killed for their wool alone. If any of the llama family were to be introduced here on account of their wool, this would seem to be the species most desirable. It should be stated, however, that the vicuna is seldom domesticated.—*Boston Cultivator.*

IT is said that seed corn, smeared with tar and sulphur, is less liable to injury from worms.

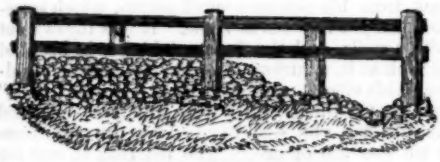
DISEASES OF THE HORSE.

Foot Evil.—Pound up and melt an ounce of brimstone in a large ladle. When properly melted, add one ounce of tar; and while the whole is boiling, add one table-spoonful of spirits of turpentine. raise the foot and pour it on to the diseased part, first having cleaned the foot well with soap suds, and got dry. The horse should be kept out of the mud, and fed on light food, green if possible. Two applications a week will soon cure most of cases.

For Big Head, Big Jaw, &c.—Keep the horse out of the wet weather, feed on bran and a small portion scalded oats; no corn, but green feed if it can be had. Give him three table-spoonfuls of powdered limestone two or three times a week, and persevere. It may take several pounds. I knew one horse to take seven or eight pounds before a cure was effected, when the swelling on the head entirely disappeared without a scar, and he was afterwards a valuable horse.

For Poll Evil.—Fry green May apple root in tallow until the tallow is completely saturated with its juice. The strength of a peck of roots may be got out with two pounds of tallow. When wanted for use, melt it and apply it with a swab made round a stick, with cotton rags. Apply it about every third day. If no matter has collected, there will be no scar; but if it is broken, apply it to the opening or tube from which the matter issues.—When a scab forms so as to prevent the free egress of matter, it must be removed,—easily done with the finger nail. This has never been in print, I presume, and doubtless many others as well as myself could give valuable information to our race, were we not too selfish. I say come one come all of the readers of the *Genesee Farmer*, let us see how much more interesting we can make its columns than any other agricultural paper of its size. More anon. A. YOUNG.

Neosho, Mo., Feby. 25, 1858.



BUILDING STONE FENCES.

Editors Genesee Farmer:—One of the best methods of building stone fence to prevent sheep from jumping it, is as follows:

In a fence of this kind there must be a post every eight or ten feet, and two boards morticed in the posts above the stone. The boards should be sixteen or twenty feet long, six inches wide, and an inch and a quarter thick. The posts should be cut five feet and a half long, split out the same as for post and board fence, or not quite so heavy. The posts at each end of the boards may have two mortices; the first may be cut two inches from the end, and the second, eight inches below the first, leaving a space of eight inches between the boards. The posts may be set one foot deep in the ground, which will make the fence four feet and a half high.

When proceeding to build a fence of this kind, first stake off the ground for the fence, then sink a hole one foot deep, put in a morticed post firm, and another the length of your boards distant from the first; then put in the boards and tighten the posts firmly. The ends of the boards should be dressed off so as to form a splice of about three inches. The middle post may be put in after the morticed posts and boards are put up. A panel will then be ready for the stone wall. The foundation should be laid on the top of the ground and two and a half or three feet wide, built up as a double wall battered on both sides, tapering up to the lowermost board. The posts should be walled in carefully with large stones, so that they will stand firm when rotted off at the ground. All sorts of stone may be used in a fence of this kind. It makes a very cheap, handsome, and durable fence.

I have two hundred rods of this kind of fence on my farm. Some of it has been built ten years, and the wall is sound yet and the posts stand firm. There is no danger of the wind upsetting it. The cost is about seventy-five cents per rod. I feel satisfied that sheep are not so ready to jump a fence built on this plan. In the fall of 1856 and '57, I had two rams in one field and thirty-five ewes in another, and a fence built on this plan was all that kept them apart. The rams made great efforts to jump, but were obliged to stay on their own side of the fence. JOHN KISER.

Shippenville, Clarion Co., Pa.

OAKS OF THE STATE OF NEW YORK.

Trees, whether individually or in groups, have ever been considered of peculiar interest. The grove is associated with the earliest records of science; and among physical objects, the forest may be considered as exacting the most important influence upon the moral world. This idea is beautifully illustrated by Humbolt, in his *Tablan de la Nature*. "The species of animals," says he, "are comparatively few in number, and their fleetness is in general, such as to remove them quickly from our sight. Vegetables, on the contrary, act upon our imagination by their immobility and by their grandeur. Their size indicates their age, and it is in vegetables alone, that with this age is associated the expression of a force which is constantly renewed. The gigantic draggonnier (*Dracona draca,*) which I have seen in the Canary islands, is sixteen feet in diameter, and enjoying an eternal youth; bears still its flowers and its fruits. When the Bethencona, French adventurers, made in the 10th century, the conquest of the Fortunate Isles, the draggonnier of Orotava, as sacred to the natives of these islands as the olive of the citadel of Athens, or the elm of Ephesus, was as colossal in its dimensions as at the present time. In the torrid zone, a forest of *Cisalpina* and of *Hymenia*, is perhaps the monument of a thousand years."

Though we cannot boast of such "monuments" as these, the oaks of the forest are known with tolerably certainty to attain the ages of 800 or 900 years, and are the most aged trees that we possess. The pines are stated by Dr. Williams, in his history of Vermont, to be from 350 to 400 years.—This information is obtained by counting the number of concentric layers or rings, a method of computation, the accuarcy of which is admitted by a large majority of vegetable physiologists.

There is another consideration which renders an attention to our forest trees of high importance. In various European countries, not only individuals but governments themselves, have bestowed great care upon the cultivation of useful and ornamental indigenous and foreign trees. Their destruction has been guarded by the most rigid enactments, and the highest favors have been conferred upon their most successful cultivation. Without wishing to see such examples in all respects imitated in our own country, it is worthy of attention whether we are not too prodigal of the abundance which we now possess; whether it is not time to cultivate instead of destroying, and thus to keep open one great avenue to national wealth and indepenence.

For the great purposes to which timber is applied, a large part of Europe must be tributary. We, on the contrary, possess within our extended domain, timber for about every use. With care, the supply can be continued. The forest can be pruned like the vineyard or shrubbery. That man would be deemed a mad man, who should destroy the young and thrifty trees of his nursery; and yet, where is the place in which the same madness is not exhibited with respect to our forests? The effect is already sufficiently evident in our populous towns; and if the practice is continued, it will soon become general throughout our country.

A great peculiarity in the vegetation of the United States, is the number and beauty of its forest trees. The number of these at present known, is about 200, which have a more or less extensive range of distribution. "The oaks comprised under the Linnæan genus *Quercus*," says Beck, "are by far the most numerous and important. Botanists are at present acquainted with more than one hundred and forty species of this genus, of which upwards of one-half belong to America. In the State of New York there are fifteen native species, viz: Mossy-cup Oak, Post Oak, White Oak, Swamp White Oak, Swamp Chestnut Oak, Yellow Oak, Rock Chestnut Oak, Dwarf Chestnut Oak, Willow Oak, Black Scrub Oak, Black Oak, Scarlet Oak, Pin Oak, Red Oak. The trees are chiefly valued for their timber and bark, and the shrubs for their fruit."

Of all the arborescent species found in our State, the White Oak is most deserving of notice, and its cultivation may be recommended as an object of primary importance. It is extensively employed in ship-building, and for strength and durability it holds the very first rank. It is well fitted for staves, which constitute an important article of export.—Time would fail to enumerate the various other uses to which this timber is applied.

Considering the remarks made concerning the White Oak as applying also to the White Swamp Oak, the next of importance is the Rock Oak, which may also be converted to most of the uses of the White Oak.

The Black Oak is highly valuable for its bark, which furnishes the quercitron of commerce.

Should this country continue to be a commercial one, the cultivation of the more strong and durable species of this genus, will eventually become a matter of necessity. In England, the price of ship-building advanced 100 per cent. in less than one hundred years, and until some provision was made, it was computed that there was not timber enough in the island to keep the navy in repair. In the United States, too, according to Seybert, the price of ship-building increased on an average 10 per cent. from 1800 to 1810.

The immense amount of timber used for ship-building, may be judged of by the fact stated in Sinclair's Code of Agriculture, that a 74 gun ship requires 3000 loads of wood, the produce of 50 acres, each tree standing 33 feet apart.

Sufficient has now been said to show the importance of an attention to the cultivation of our useful species of oak. We have neither the time nor the ability to point out the details of the manner in which this subject should be pursued, but we trust it will ere long receive the notice of patriotic individuals, and of our national and State legislature.

There are two distinct objects to be regarded in the cultivation of forest trees—their pecuniary value as fuel and timber, and their uses as ornaments, screens and shades. The cultivation in the two cases must be quite different; yet we suppose the first steps must in all cases be the same. The land on which the seed is to be sown, or the young trees planted, must for many years be cultivated while the plants are growing, in order that they may make any show at all, even in 20 years.—Without cultivation they will grow but very slowly. After the acorns are sowed, or the tree planted, the plow can go early between the rows, leaving the subsoil beneath the rows unmoved. The best time for sowing the acorn is in the autumn, immediately after they have fallen from the trees, and they should be planted just below the surface. The plants for some years should be kept free from weeds. The most profitable way to do this is to plant potatoes or bush beans, which will pay the expenses.

C. N. BEMENT.

Springside, April, 1838.

ANECDOTE—INCREASE OF A POTATO.

Editors Genesee Farmer:—Some years ago, a gentleman visiting a farmer in Tolland, Connecticut, took from his pocket a small potato, which somehow had got in there at home. It was thrown out with a smile, and the farmer taking it in his hand to look at it, a curious little boy of twelve, standing at his elbow, asked him what it it was. "Oh," said he, "nothing but a potato, my boy; take and plant it, and you shall have all you can raise from it till you are of age." The lad took it, and the farmer thought no more about it at the time. The boy, however, not dispising small potatoes, carefully divided it into as many pieces as he could find eyes, and put them into the ground. The product was carefully put aside in the fall, and planted in the spring, and so on till the fourth year, when, the yield being good, the actual product was four hundred bushels! The farmer seeing the prospect that the potato field would, by another year, cover his whole farm, asked to be released from his promise.

Hollow Horn.—In the *Farmer* for February, Mr. Morehead requested a cure for the hollow horn. I will give him a very simple one. Take hold of the hair at the place called the Cuppling, and give it a smart jerk. The skin grows fast to the spine and thence extends to the horns and tail. Try it, and report to the *Genesee Farmer*. C. W. P. —*La Fayette, Ind.*

THE LIFE OF A FARMER—HEALTHFUL, PLEASANT, PROFITABLE, AND HONORABLE.

That the life of a farmer is *healthful*, has frequently been shown by tables of comparative longevity, and one of these for Massachusetts shows that their lives exceed the general average by twelve years, and go nearly nineteen years above that of the common laborer, and eighteen above the average at death of those engaged in mechanical pursuits. There seems to exist a sanitive influence in the varied employments of the agriculturist—in its fresh and suggestive surroundings. So the young man to whom a long life seems desirable, may choose the occupation of a farmer with the greatest likelihood of seeing in their fullness the allotted years of man. For whenever and wherever such statistics have been gathered, they bring facts to confirm the healthfulness and longevity of the tillers of the soil.

That the life of a farmer is *pleasant*, seems, at least, the opinion of the great mass outside the employment, if their professions are to be believed. A city writer, speaking upon the subject, remarks: "The man in active business in other departments, pictures for himself in his retirement a rural home—a little farm well tilled—and on that he hopes to end his days. Ambitious men, who have drunk deeply of fame, are at a stand when the tide of their affairs are at a turn, whether to make new and earnest efforts to struggle upward, or to buy a farm and in the peaceful labors it requires, to enjoy a tranquil close of life." Merchants, lawyers, and physicians, we may add, when most rapidly accumulating fortunes, often stop to consider whether a competence and a snug farm are not more desirable than wealth, amid the turmoils and cares of the city, and the vicisitudes of fortune to which its dwellers are exposed. Rural life and employment have the elements of the beautiful and the agreeable, or they would not possess so many charms to the occupant of all other departments of human enterprize and industry.

Why then do so many young men, turning from agriculture as unworthy their attention, seek other employments, or crowd the mercantile or professional ranks? There may be various reasons for this. Some may desire a more speedy return for their labor, and think it found in daily or weekly wages, not considering the uncertainty of constant employment, or comparing their actual profits with those of the working farmer. Others may be led away by the attractive and fashionable appearance of acquaintances who have found employment in the city; or by the hope of rivaling the one out of twenty who succeeds in making a fortune as a merchant, forgetting, meanwhile, the confinement and drudgery of the everyday life of their gentlemanly friend, and the nineteen failures which have taken place while the latter has suddenly risen to wealth and notoriety. A larger class are impressed with the idea that in cities exist greater facilities for finding a comfortable living without much active labor; and this thought has charms for the indolent which they can not resist. How bitterly they will be disappointed, miserable multitudes, who are waiting with Mr. Micawber for "something to turn up," can sorrowfully relate.

That the young man who has been liberally educated must study a profession—that in law, medicine, or theology, alone, can be found use for his learning—is an idea too prevalent even now. It will be a better day for all when it is discovered that the highest honors of the college do not unfit a man for the practical duties of agriculture—that it is not burying ones knowledge to graduate from the university to the farm. Some of our most successful agriculturists have reached farming through law, finance, politics, literature, or merchandize; going by way of the professions to their present field of labor. When such men take the direct route, as they are beginning to do, farming will rank not only as healthful and pleasant, but as *profitable* and *honorable* in the esteem of men.—Increase in position will give increase in knowledge and refinement, and make the life of a farmer always and everywhere, what it should be—the truest and manliest of all life on earth. J. H. B.

TREATING TIMBER TO MAKE IT DURABLE.

Editors Genesee Farmer:—Will you please to insert the following in your valuable journal. There are many who read it, that might test its efficiency and be benefited thereby. D.—*Gates.*

"I am not aware that the following is generally known, at all events it is not practiced in this locality. In Germany it is known and practiced extensively.—The matter is this: Hard wood, such as hickory, beach, dogwood, &c., is impregnated with the liquid of stable manure, and afterwards submitted to the influence of heat, and thoroughly dried, for the purpose of imparting to it good perservative qualities and rendering it tough and solid.

"Wood intended for axe handles, mallet, &c., is steeped in this liquid for several days, and afterwards hung up over a fire and exposed to the influence of heat arising therefrom; two or three days are sufficient to render it thoroughly dry. It is then said to possess greater toughness and solidity than when subjected to any other process.

"The farmers of Germany use mallets made of hard wood, which is prepared as above, for the purpose of driving iron wedges to split their timber; the wedges are usually made with a head about two inches or two and a half, and the mallet suffers no indentation from percussion.

"If the process imparts to the wood such qualities spoken of, the knowledge of the fact may be interesting and profitable. It is certainly a simple and convenient process, and some one may be disposed to test it, and compare its effects with those obtained by other methods."—*Indiana Farmer.*

Reaping and Mowing Machines.—Appleton's *New American Cyclopædia* says: "The reaper and mower have gained a firm footing, even within the last ten years; for though the first reaping machine known was used 1,800 years ago, * * it is but a few years since the economy and practicability of using the machines was fully established. The number of machines made and sold in a single establishment in Chicago, to supply the demand in the Western States, alone exceeded 4,000 in 1856, while innumerable other establishments exist in other parts of the country, doing almost as large a business as the one alluded to. Nearly 200 different patents have been granted within the last eight years for reapers and mowers, and at a trial recently instituted and held at Syracuse, N. Y., nearly 100 different patents were entered for competition."

AGRICULTURAL PAPERS.

"On the propriety of farmers supporting none but purely agricultural papers, *as such*; and is their publication monthly often enough?"

EDITORS GENESEE FARMER:—I am decidedly in favor of supporting only purely agricultural papers *as such*. I am desirous of having the editor of *my* grictultural paper devote his *whole* attention to the subject. Let us have fish or flesh—no hotchpot. If a literary paper is desired, then I should subscribe for one devoted to literature. So, an educational journal should contain articles pertaining to that cause from the title page to finis. The *good* agricultural paper will be *full* of matter for the particular benefit of the agriculturist. A paper devoted to agriculture, education and literature, is like the man who is *Jack at all trades*. Some of the departments will certainly be neglected, often all of them. Numerous instances could be mentioned to sustain the position. An editor is frequently supposed to be a universal genius—a kind of walking encyclopedia—a factotum, capable of doing everything, not only, but also of answering every inquiry.

All are aware that a person can devote a life time with profit in investigating the various departments of agriculture and horticulture. Should not the editor who assumes to instruct thousands upon that subject, make himself fully master of his subject? The school boy writes milk and water articles upon all and any subject, but he writes without thought, without experience, without originality, and without benefit to any one save himself.—Would any one be so foolish as to expect a master piece of painting from the easel of an artist, who claimed to be equally expert with the brush, the chisel, and the poet's pen? Would you expect to find the most skillful physician in the person who divided his attention between the use of the lancet, the preparation of the attorney's brief, and the study of divinity? The devout minister is not likely to be the shrewd and successful lawyer, or skilful surgeon. Nor can we expect to find the editor, who has turned his attention to "teaching the young idea how to shoot," to writing agricultural articles, or reviewing literary works, well qualified to enlighten the farmer upon the best rotation for crops, the proper soil for certain cerials, the kind of manure best adapted to some particular locality, the best method of draining, irrigating, etc., etc.

No argument is necessary to convince a reasonable mind that an editor can devote *all* of his time to the preparation of a first class agricultural journal—that he can do so to the advantage and profit of his subscribers. There are those who do so devote their time, and of course they make the better class of agricultural papers. Shall we as farmers support them? No one can doubt the propriety of giving our hearty support to papers so edited. For our agricultural reading, we should subscribe only for purely agricultural papers; for our political reading, all will peruse political papers; and for religious instruction, let us take the purely religious paper. That is the principal; but each could contain a few brief news items without injury.

Were I to read only *one* agricultural paper, I should want to have it published weekly; but purely agricultural papers are not yet well enough sustained to authorize a weekly publication thereof. But for myself, I prefer four or five monthly agricultural papers, published in various parts of the country, to one weekly—the cost being about the the same. Here, in Minnesota, the farmer reads the agricultural journal published in New York, in the New England States, in Ohio, in Wisconsin, and Illinois, and in Minnesota, as soon as we have one. Most farmers *think* they can not afford more than three or four dollars a year for all of them; consequently they must be published monthly and not weekly. The person who gets all his agricultural reading from one monthly in this age, need not be astonished if he does fall behind his neighbors in agricultural knowledge. If my acquaintance would not subscribe for more than one, I should certainly advise him to take the *Genesee Farmer*.

E. HODGE.

Marion, Olmstead Co., Minnesota.

A PROPOSITION FOR A PRIZE ESSAY.

EDITORS GENESEE FARMER:—Through the politeness of Dr. W. W. PHILIPS, I have received the January, February, and March numbers of the *Genesee Farmer*, and I am so well pleased with it, that I must be pardoned for expressing my opinion of it through its columns. It has been my practice for ten years past to take and *read* carefully at least three agricultural journals, and I regret that the *Genesee Farmer* has not been one of them. I scribe for all I take, too.

I am pleased to find that you have such a *host* of able, *practical* contributors—writers who understand what it takes to contribute agricultural improvement. I pledge you my word, that I would not give a red copper for a system of plantation economy which does not contemplate the annual increase of the fertility of the soil. All other systems are dangerous humbugs. God frowns upon the man who, with impunity, exhausts the soil that supports him, and is to support his posterity—the man who has no higher aim in life than to pocket the dollar, at the expense of coming generations.

You keep this subject—the improvement of the soil—prominently before your readers. This is right. That *is* the object of every truly valuable agricultural journal. And the improvement of the farmer's *mind*, as well as his soil, is not left out of the question. Well, they are inseparably connected. Improve the mind on rural affairs, and the improvement of the soil will follow in the wake. I must do something too. I must try to leave the world better than I found it. Let me therefore make a proposition to your readers, to this effect. I propose to be one of twenty who will give $5 each to the writer of the best essay on the improvement of exhausted lands, to be published in the *Genesee Farmer* the present year, the premiums to be awarded by a committee of three, chosen by the editor of the *Genesee Farmer*.

Now, who will respond? Who feels like doing something for the agricultural press, and the agricultural public? Speak out, one and all. If we get $200, we will give $100 of it to the man who the present year may make a series of agricultural experiments of the greatest utility to the rural world.

C. D. HARMON.

Edwards Depot, Miss., March 1858.

HORTICULTURAL HINTS FOR THE MONTH.

For the gardener, May is usually the busiest month in the year. The present spring, however, has been so remarkably early that much of the labor which has usually to be put off till May has been done in April. Tree planting is over, and the main crops in the kitchen garden are sown. Many of these are already up—at all events the weeds are; and it should not be forgotten that the only way to obtain the mastery over them is to attack them as soon as they make their appearance. Let them get possession of the ground, and they not only injure the crop, but the labor of exterpating them is increased four-fold.

Strawberry beds should be mulched. Tan bark is probably the best material, but straw, leaves, sawdust, etc., answer a good purpose. The advantages of a good mulch are not generally appreciated. It checks the growth of weeds, keeps the soil moist by retarding evaporation, and increases the growth of the plants, while the fruit is kept out of the dirt, and is nice and clean.

Raspberries, gooseberries, currants, and blackberries, are also greatly benefited by mulching. It is claimed by some experienced gardeners that mulching will prevent mildew on the gooseberry.

On a clayey loam, mulching is not so beneficial as on a light, sandy soil. On the former, the frequent use of the hoe would keep the soil moist, and answer nearly every purpose of mulching, and at the same time increase its fertility by accelerating the disintegration of the mineral matter and the decomposition of the organic matter of the soil.

Mulching is especially advantageous for all recently transplanted trees, and dwarf pears, whether recently transplanted or not, should be well mulched. In the Prize Essay on the Cultivation of Dwarf Pears, published in the March number of the *Genesee Farmer*, the writer, who has been eminently successful in growing pears on the quince stock, says: "I gave my trees, last spring, a mulching of stable manure, two years old, about three inches deep over a space of four feet around each tree, and covered that with a mulching of straw. *I found the growth and fruitfulness of the trees much increased by it.* * * * A thick mulching of straw or other light materials is almost as important as manure." The roots of the quince are small, fibrous, and near the surface, and are consequently easily affected by drouth, while the pear grafted on it is naturally of a more vigorous growth and requires more sap than the quince roots can supply, unless the soil is moist and abounds in plant-food. Thorough underdraining, deep trenching, heavy manuring, and judicious mulching, are the radical requisites of success in the culture of the dwarf pear.

Melons.—The great object in the cultivation of melons, is to get them early. During the hot weather of August and the first part of September, they are one of the greatest luxuries that can be grown in our northern climate. It is easy to raise the plants in a hot-bed, but so difficult to transplant them without checking their growth, that in favorable seasons those sown in the open ground are earlier. A light, warm, sandy soil, should be chosen if possible. If not, it has been recommended to place two bushels of sand where each hill is to be grown. Turf ashes, if they can be obtained, are much better. The best melons we saw last season were grown on rather a heavy loam and cultivated as follows: The ground received a dressing of old, well-rotted manure from the blacksmith shop, which, containing much hoof-parings, was very rich. This was dug in all over the ground. The seed was planted in hills about three feet apart, and small boxes with a single glass light were placed over them. Those treated in this way were much earlier than some which were transplanted from a hot-bed. Superphosphate of lime, placed in some of the hills with the seed, had a good effect. It is best to sow plenty of seed, say six or eight seeds in a hill, but not more than three good strong plants should be allowed to remain. The *Christina* is the earliest and the best musk melon yet extensively tested.

Cucumbers.—Make the soil light and rich; raise the hills a few inches above the surrounding surface; place six or eight seeds in each hill about an inch deep, and, if possible, place a small frame over them. If a glass frame, so much the better; but if covered with gauze, it will be beneficial; and even if not covered with anything, the frame will keep off the cold wind and the bugs, and bring the plants forward much more rapidly than those without protection.

When covered with either glass or gauze, care must be taken to afford ventilation on all warm, sunny days, by tilting the frame or glass, but in such a direction as to keep the wind from blowing in and chilling the plants. Ventilate before the sun

gets too warm, and close about four o'clock. Water when dry. Three or four plants in each hill, which should be about four feet apart, will be sufficient.

Lima Beans.—Let the soil be light, warm, and rich. Make the hills about four feet apart. Stick poles about ten feet long in the hills before planting the seed, so as to avoid disturbing the plant.—Bury four or six beans about an inch deep around each pole, and if they miss on account of cold weather, or for any other reason, sow again. Three plants to each hill will be enough. We have found unleached wood ashes, incorporated with the soil, especially beneficial for beans.

String Beans.—Sow a few rows of early six weeks beans in a warm, sunny, sheltered situation. A pint will sow about forty feet. The rows should be about two feet apart.

Tomatoes should be set out on the lightest and warmest soil. Water them thoroughly a few hours before transplanting, if necessary, and remove each plant carefully by itself, with a ball of earth round the roots. In this way they will receive no check. A light, rather poor soil, produces the earliest fruit, but a moderately rich soil gives the greatest crop. Trained on a frame as described in the *Genesee Farmer* of last year, they look neater, but we are not sure that they are much earlier or more productive than when allowed to trail on the ground.

Martynia.—This is a tender annual from Mexico, introduced into England in 1840, and named after Dr. Martyn of Cambridge. It deserves to be better known in this country. The flowers are very showy, and the seed pods make pickles equal to the English walnut. Cultivation same as cucumbers.

Celery, if raised in a hot-bed, should be transplanted out into the open ground in rows six inches apart before finally setting them out in trenches.

PLANTS FOR HEDGES.

In *Hovey's Magazine of Horticulture* for April there is an interesting article on "Hedges and Hedge Plants," in which the experienced editor of this old and sterling periodical, after showing the advantages of hedges—their importance in a landscape point of view—their great value as screens, and, to a certain extent, their economy,—briefly describes some of the most approved and desirable plants for the purpose. We make a few extracts:—

When the hedge was first introduced into our country, it was thought that no other plant would answer the purpose, but the same one adopted in Great Britain, namely, the Hawthorn. It was therefore imported in quantities, and many old hedges still exist, though in most instances in a very dilapidated condition. Time, however, showed that though so beautiful and admirably fitted for the climate of the mother country, it is not at home with us. Our hot sun browned and burnt its pretty foliage, and that insidious foe, the borer, attacked and destroyed its roots. The best managed examples began to show ugly gaps, and, ere long, it became apparent that neither the associations connected with this favorite tree, nor the beauty and delightful fragrance of its snowy flowers, could save it from destruction. Here and there, in various parts of the country, some old homestead of the last century is still enclosed with the Hawthorn hedge; but they are destined, we fear, to eventually give way to its congeners the American Thorns, or the Buckthorns, and other plants.

The American Thorns.—As a substitute for the English Hawthorn, two of our American Thorns answer a very good purpose. They are both vigorous and hardy, retaining their foliage, and growing rapidly. The Cockspur, or New Castle Thorn (*Cratægus crus galli*) is a most beautiful hedge plant, with an entire foliage, as green and glossy as the camellia. In Wilmington, Delaware, to which State it is indigenous, there are some of the finest specimens. We have also seen one in the grounds of D. F. Manice, Esq., Hempstead, L. I., which was a gem in its way; properly clipped, compact, and a perfectly protective barrier to all animals. The other is the Washington Thorn, (*C. cordata,*) which though more resembling the English than the Cockspur, makes an effective hedge, being well furnished with prominent thorns, very hardy, and retains its foliage well. These both deserve far more attention than they have hitherto received. We can only attribute their neglect to the scarcity of the plants, and a consequent resort to other and less beautiful kinds. If our nurserymen would but keep up as good a stock of these as they do of the Buckthorn, with such a specimen to look at as Mr. Manice's, we are sure they would speedily enclose hundreds of our neat suburban grounds. Both of them prefer a deep, rich, loamy soil, not subject to wet at any season of the year, but more particularly in winter.

The Buckthorn, (*Rhamnus catharticus.*)—The ease with which this favorite hedge plant is raised, its perfect freedom from the attacks of all insects, and the certainty of its living, have contributed greatly to its popularity. As a protective hedge it is also very effective; it is deficient in thorns, though the lateral branches are armed with short stiff spurs, which render it quite formidable when thick and clipped in a proper manner. As an ornamental hedge it cannot compare with some other plants for the same object. It does not retain its foliage very late. It transplants with ease at almost any season of the year. The late Hon. John Lowell, who had some good specimens around his fine place at Roxbury, once informed us that they were set out as late as the 20th of June, without the loss of a plant. Other good qualities are, that it bears clipping freely, resists any degree of cold, and will thrive in almost any soil not perfectly sodden.

The Privet, (*Ligustrum vulgare.*)—Among the deciduous ornamental hedges this holds the first rank. It is indeed almost evergreen; pushing its small, lively green foliage early in the spring, and retaining it up to the very verge of winter, and often times beneath heavy snows until spring. Its growth is nearly upright, the branches diverging

with great regularity, with a yellowish spray which adds to its attractiveness when denuded of its leaves. It grows with great facility, bears clipping as well as the Buckthorn, and, so far as our experience goes, is quite free from insects.

There are several varieties of the Privet, all very pretty, but that which appears the hardiest, and succeeds best, is the yellow-berried, so called, the berries of most of the others being black. As an ornamental hedge, next to evergreens, we repeat that this is the finest of all the hedge plants we have yet seen for our climate.

The Hornbeam, (*Carpinus betulus.*)—In England this is very extensively used for hedges and screens. The growth is very strong, and as it retains its desiccated foliage till spring, it affords a most excellent protection from cold winter winds, while its dry hanging leaves give it a warmer and more cheerful appearance. It is perfectly hardy, transplants very easily, bears the shears with impunity, may be kept low as readily as the Hawthorn.—It thrives in almost any soil.

BORDER AND BEDDING PLANTS.

The beginning of this month is the best time for planting most of those hardy herbaceous perennials commonly known as Border Plants, while the end of the month is the proper time for setting out the tender perennials called Bedding Plants.

Border Plants are generally propagated by division of the roots, though some, such as the Phlox, may be grown from cuttings. Most of them well deserve more attention than is generally shown them.

Foremost among them comes the Phloxes, which are divided into two divisions, the *decussata* and the *suffruticosa*, the one being dwarf and the other a tall grower. There are many varieties of colors, varying from white to purple or red, all of them showy, and very effective against fences or for a back ground for the smaller growing plants.

Dielytra spectabilis is altogether the most unique and beautiful hardy plant yet introduced. It comes from China, and was introduced into England by Mr. Fortune, who has lately been solicited by the American Government to take another journey to China for the purpose of introducing those varieties of Tea most suitable for cultivation in the United States. Its flowers are borne in beautiful drooping racemes, and are rose-colored. It requires the same treatment as a common Paeony, which it greatly resembles in its leaves and manner of growth.

Fox Glove—*Digatalis purpurea.*—This plant is not much known, but is worthy a place in every garden. Its flowers are borne in long spikes, and are white, yellow, various shades of purple, and variegated.

The Potentillas are showy plants, looking very like a strawberry. The flowers are crimson, white and yellow of various shades.

Iris.—There are many varieties of Iris that are really splendid flowering plants, and they are yet rare in American gardens. The great variety of form and color that exist among them, coupled with their extreme hardiness, makes them very desirable plants, and a collection of them should find its way into every good garden.

Pansies.—These, if properly treated, are always an ornament to the garden, flowering from early spring till late in the autumn. They may be grown from seed, but they are better grown from cuttings; and in this way, and by division of the roots, good varieties may be perpetuated. They must be grown in good soil, or they will degenerate and the flowers become small. They prefer a rather shady spot.

Delphiniums.—These are tall-growing plants, producing long spikes of flowers of different shades of blue, pink, and white. They are useful for hiding fences, or for intermingling with flowering shrubs.

Besides these, there are many more well worthy attention. They are hardy, and require no special care in cultivation; and being once planted, and kept clear of weeds, they come up every year and flower strongly and persistently. Another advantage in them is that generally their flowers are unlike those of annuals and the tender perennials; and by having a well selected collection of them combined with bedding plants, a better effect is produced than would be with either class of plants alone.

Verbenas.—Among Bedding Plants, the Verbena takes the lead. It is a tender perennial, creeping in habit, and delights in warmth. It flowers profusely during the hottest weather in summer, and the blooms are very lasting. They are borne in trusses or umbles, and are of all colors but yellow. The plants can be procured of almost any nurseryman, and should be planted the end of this month, in good soil, and as soon as planted should be pegged down, and they will root at the joints.

The Petunia, too, is a valuable plant for masses. It flowers very freely, and makes a great show during the summer and autumn months, flowering till killed by the frost. It can be grown from seed, but it is better for the grower to get a few good varieties of some reliable nurseryman.

The Scarlet Geraniums are very useful plants for summer decoration of gardens, and may be kept for many years, if taken up on the approach of frost and kept in the house during the winter.

The Lantanas, Ageratums, Feverfews, and Heliotropes, will also contribute to the general display, if planted in rich soil and the ground kept clean and mellow, and they may all be preserved through the winter in the house, and planted out again as soon as the weather becomes warm.

Half-hardy bulbs, such as Gladiolii, Tigrideas, and Tuberoses, may be planted the end of this month. They should be set in rows two feet apart and six inches apart in the rows, or may be planted in clumps or masses as fancy directs.

Rochester, N. Y. W. T. GOLDSMITH.

THE SILVER FIR.

Though not so graceful and beautiful as the Norway Spruce, the Silver Fir (*Picea pectinata*) is one of the noblest and handsomest of evergreens. It rises to the height of from 160 feet to 180 feet, with an erect stem, regularly furnished with whorls of candelabrum-like branches. The trunk, in full grown trees, is from 6 feet to 8 feet in diameter. The branches stand out horizontally. The leaves are of a darker green above than those of any other fir, and underneath they have two white silvery

PICEA PECTINATA, OR SILVER FIR.

lines running lengthwise on each side of the midrib. As the leaves are partially turned up, these silvery lines make a conspicuous appearance in the general aspect of the tree; whence its name.

The rate of growth of the tree is slow when young, but rapid after it has attained the age of 10 or 12 years. It attains its full height in from 100 to 120 years. There is a specimen of this tree growing in the grounds of the Messrs. JOHNSON, of Germantown, Pa., which is ninety-six feet high, and of which a writer in the *Horticulturist* says, "it would probably be not too much to assert that it is the most beautiful tree of the kind in the United States." It has been planted about 50 years.

In the Northern States, the Silver Fir, when young, is apt to lose it leader in severe winters. This is the case even in England, and it is not uncommon to see old Silver Firs with forked trunks and branchy heads. In somewhat sheltered situations, however, there is little danger from the cold, and the tree is worthy of more attention than it has yet received.

CATERPILLARS ON FRUIT TREES.

EDITORS GENESEE FARMER:—An inquiry is made in the March number of the *Farmer*, by P. T., of our county, asking for "the best means of destroying the caterpillar and other mischievous worms on our fruit and shade trees." This was to me a welcome inquiry, which I hoped would receive a prompt and able response for the April number. In the absence of such an article, the following experience of mine is given, hoping it may lead to further investigation of the habits and means of exterminating injurious insects.

The *Clisiocampa Americana*, or common Apple-tree Caterpillar, is the first depredator in our orchards. On a clear day in the fall or winter, if the trees are carefully examined, a shining deposit, containing the eggs of the worms for a future colony, will be discovered, which can be easily destroyed. Should this opportunity pass, no time should be lost, when the small tents appear in the forks of the trees, to make clean work in their destruction. Numerous ways recommend themselves for their novelty, but we pass them by for a more ready and efficient method. The operator, who is supposed to be equipped with a pair of stout hands firmly mittened, and a ladder at his service, can, in a few trials of his skill, exterminate this pest from the farm.

The Yellow Apple-tree Worm is the larvæ of the Handmaid Moth, *Eumetopona ministra*, and is very destructive. It makes its appearance the last weeks of July or first in August, in small yellow clumps near the extremity of the limb which it occupies. This may be easily removed from the tree and its contents destroyed. Should this be omitted, he will soon arouse the owner to astonishment, if not alarm, by his daily progress.

The Apple-tree Borer, *Spreda bivittata*, will require the attention of the farmer about this time. His location is easily found by the fresh chips thrown out by him. Our practice has been to use the point of the pocket knife. Whenever new chips are discovered, we remove the bark with the knife, and destroy the grub. Coal tar has been applied to the trunk of the tree, near the roots, as a preventive; but with what result, time will prove.

The only mode of destroying the Apple Worm, *Carpocapsa pomonella*, which can be relied on, is to shake the tree well about the first of August, that all the apples already injured may fall off, and then carefully gather them up and destroy them by feeding to hogs or otherwise. B.

Harperville, N. Y., April, 1858.

SHELTER FOR APPLE ORCHARDS ON THE PRAIRIE.

EDITORS GENESEE FARMER:—In the Editor's Table of the April number of the *Genesee Farmer*, I notice an extract from a letter from your correspondent, D. EDWARDS, in relation to fruit trees in exposed situations. The facts set forth by your friend so exactly coincide with my own experience and observation, that I can not refrain from jotting a few fruit items for the *Farmer*. I am an amateur in tree culture. I have loved the science from my boyhood, and it is with pleasure I can now point to stately trees planted when I was but a boy. Although others enjoy their fruits and shade, yet a consciousness of having added to the happiness of others, by my boyish efforts at tree planting, even now sends the warm blood pattering to my finger ends. But I am digressing.

The planting of fruit trees on the south and east of timber belts, or, if the orchard is located in the prairie, planting a belt of timber on the north and west, for protection from the wintry blasts, has always been with me a fixed idea—almost a hobby; but since the May freeze in 1852, and the winter of 1856–7, which proved so destructive to orchards, a complete change has come over the spirit of my dream. When stern facts stare a person in the face at every corner, he is bound to believe. I make the assertion that a protection for orchards, be it high board fence, stone wall, belt of timber, or what not, should be placed upon the south and west. The reason for this is obvious. In a prairie region, the winds which prevail during March, April, and May, are almost invariably south and southwest. The soil being thoroughly soaked by the spring rains, the tree is blown with its head inclining to the north and northeast, and in that position, the stem being exposed to the scorching sun, the sap is forced into an unhealthy action, and that portion of the stem so exposed withers and dies in a narrow strip from the crown up until shaded by the foliage. Nine out of every fifteen are killed by the sun, while they are charged to frost. The north and northwest winds blow only when the ground is frozen, or seldom does. I have examined a number of orchards in Iowa, and find almost invariably the decayed strip upon the southwest side of the tree, the tree inclining north or northeast. Numbers of trees were killed entirely during the May freeze of 1852, a great majority of which were on southern exposures, in warm, sheltered places, while upon the northern slopes and cold hills they escaped.

These remarks are intended exclusively for apple orchards. All fruits do not require the same situations. If this is accepted, I have some practical suggestions to make, in some future number, for western tree planters. WARREN C. JONES.

Viola Garden, Henry Co., Iowa.

We shall be happy to receive the practical suggestions. EDS.

HORTICULTURAL NOTES FROM CANADA.

MESSRS. EDITORS:—I will, if you think them worthy of insertion, send you from time to time the results of my experience in horticulture for seventeen years in Britain and twenty-three in Canada. I was one of that peaceable and oft-quizzed class of persons called amateurs, viz., persons who, having an income sufficient for their wants, employ themselves in horticultural pursuits.

Some of your correspondents are inquiring how Pears succeed on Thorns. In England, although I stocked my place with purchased trees, yet (amateurs are proverbially restless) I was always trying experiments, and, among other whims, grafted Pears on the Service, Mountain Ash, and Hawthorn. The former took readily but made feeble growth, but grafts on the latter grew as fast as on the pear stock, and bore sooner.

I arrived here in July, 1834, bringing a good selection of trees grafted by myself, but, except a grape and an apple, they all died. I grieved most

at the loss of the pears, and it was years before I could procure pear grafts; for you must know that for one pear at least five hundred apples are planted in Canada. I do not think there are (except my own) fifty in this large township, and those are continually dying off. At first I grafted on the native thorn, which did well, but having a bed of young Hawthorns for hedges, I whip-grafted them, and have now sixty planted out and doing well, and have also given many away. I plant them in large holes, covering the roots with rich chip earth, plowing the junction line six inches below the surface. In two or three years they will have roots of their own. I am aware this is little different from layering, and that not having such carrot roots as pear stocks they will require higher cultivation; but, on the other hand, as they acquire an early fecundity from the thorn, they will never ultimately attain the size of those on pear stocks, but on that account are suitable for those who want variety, or have not time or tact to train pyramids on quinces. Mine are standards from three to four feet, and have shoots from three to five feet. Some strong growers in the bed formed roots at the surface before they were removed.—One, a *Jargonelle*, the third year from the graft, on a six feet shoot, and had a cluster of five pears, rather small of course, but when house-ripened equal to any I ever tasted in Britain, and I have frequently been in Covent Garden, London. These pears were produced when it had no roots of its own. Feeble growing pears, if not sunk, will flourish on the thorn root and be very productive. I purchased a *Bartlett* and a *Beurré Diel* on pear stocks, but they grow slowly; but most of what I see here either make no wood or at most an inch, bear a fruit or two and then die. From what I have observed in England, it is useless to cultivate the pear without the soil is well animalized. It can not thrive on land exhausted by cropping without manuring heavily. Mice seem to have left us now, but the trees I have are but a moiety of what I grafted. Long fine shavings are the best preventive.

ROBERT THOS. JOHNSTON.

Aberfoyle, C. W., March 15, 1853.

PEACHES—THE AM. POMOLOGICAL SOCIETY.

EDITORS GENESEE FARMER:—Can you, or some of the horticultural readers of your journal, inform me why the following-named Peaches, *Hill's Chili*, *Madeleine de Courson*, and *Teton de Venus*, are placed in the list for general cultivation in the Catalogue of the American Pomological Society? It is understood that nothing is to be placed in that list except what has been thoroughly tried in various localities and different sections of the Union, and proved itself generally valuable.

How many cultivators know anything about the three peaches mentioned above? and have they been generally tested? In this vicinity, which is probably as much of a peach section as any in the country, none of these varieties are well known. *Hill's Chili* has been cultivated by a few persons, and only a few, and the other two varieties are almost unheard of.

At the last meeting of the Society, the subject of peaches was discussed, and we find the following in reference to these three sorts:

Hill's Chili.—Mr. SYLVESTER, of New York, recommended this as being a good bearer every year, a moderate grower, hardy, and about the same quality as *Crawford's Early*.

Mr. PRINCE remarked that nearly all yellow-fleshed peaches are acid. He only knew of two sweet ones.

Mr. PINNEY observed that it ripens between the *Mixon* and *Crawford's Late*.

Mr. H. E. HOOKER said it was well known and much esteemed. He would recommend it for trial.

Recommended as *promising well*.

Madeleine de Courson.—Mr. SAUL recommended it for trial as one of the very best.

Mr. PRINCE said that it was most delicious, and a celebrated sort in France.

Mr. BERCKMANS had known the crop from one tree sold for eight hundred francs in France, and said that it was a fine variety.

Recommended as *promising well*.

Teton de Venus.—Mr. SAUL considered this as of the very highest character. It is a prodigious bearer.

Recommended as *promising well*.

From the above, it appears, by the number that participated in the discussion, that among the large and experienced corps of horticulturists present at that meeting these fruits were but little known, and they were recommended only as *promising* well. How, then, is it that they appear in the list for *general cultivation*, by the authority of that same convention? Is there not some mistake about this, and have not the names of those fruits crept into that list through inadvertence?

I hope that some one informed on this subject will reply to my queries, as it is a question of some importance, both to planters and nurserymen, and the Catalogue of the American Pomological Society ought to be such a one as can be relied on.

Rochester, N. Y., April, 1853. R. G. N.

FORMATION OF HORTICULTURAL SOCIETIES.

EDITORS GENESEE FARMER:—Permit me, as one experienced as to the actual benefits, to say a few words to your subscribers about the formation of Horticultural Societies. No one can imagine the full benefits to be derived from the formation of these societies until they have taken an active part in them. They are of benefit to all who join them.

I would say to your readers, my friends, if there are any lovers of this beautiful art (as doubtless there are) in your village or neighborhood, speak to them at once about forming a Horticultural Society. You can have monthly meetings for discussions at which essays might be read on different ways of cultivating land, transplanting trees, on the best manures, exchange of seeds, plants, etc., which would make them interesting to all parties; and I am sure there is no father who has a son old enough to think of beginning to look around for himself, that would object to his attending those meetings.

These societies are of special benefit to the young of both sexes. They would keep young men out of evil company; for in all villages a young man must spend part of his evenings somewhere—either in the bar-room or in some store—to hear the idle gossip of the place, which is of no earthly benefit to him.

Talk with them about this matter. Call a meeting a some convenient place, and take into consideration the formation of a society of this kind. F.

New Advertisements this Month.

Superior Land Plaster—French & Chappell, Rochester, N. Y.
Kedzie's Water Filter—James Terry & Co., Rochester, N. Y.
Sixteen Years in the Wilds of Africa—J. W. Bradley, Philadelphia, Pa.
Hooker Strawberry Plants—H. E. Hooker & Co., Rochester, N. Y.
Chinese Sugar Cane Seed—I. W. Briggs, West Macedon, N.Y.
Dioscorea—Chinese Rice Potato—Wm. R. Prince & Co.; Flushing, N. Y.
Virginia Land for Sale—John Dodson, Petersburg, Va.
General Gifford, Jr.—Elias Yeomans, Walworth, N. Y.
Stock and Hay Scales—Forsyth & Co., Rochester, N. Y.
Manny's Patent Combined Reaping and Mowing Machine—Walter A. Wood, Hoosick Falls, N. Y.
The Garden—Fowler & Wells, New York.
Wahsteids Corn Planter—M. W. Simmons, Brockport, N. Y.
The Seymour and Morgan Self-raking Reaper and Mower Combined—Seymour, Morgan & Allen, Brockport, N. Y.
Webster's Quarto Dictionary—G. & C. Merriam, Springfield, Mass.
New Rochelle Blackberry—William Lawton, New York.
Illinois Lands for Sale—John S. Hayward, Hillsboro', Ill.
Ornamental Tree Seeds, &c—Wm. Brown, Montreal, C. E.
Wooden Water Pipe—I. S. Hobbie & Co., Rochester, N. Y.
Esteham's Combined Harvester for 1858—R. L. Howard, Buffalo, N. Y.
Sugar from the Chinese Cane—Hedges, Free, & Co., Cincinnati, Ohio.

Who started the Genesee Farmer?—The *Genesee Farmer* has become such a popular and influential institution—has such a host of able correspondents, such a large and extensive circulation, has done and is now doing so much for the cause of agricultural and horticultural improvement—that several gentlemen now claim the honor of starting it. N. Goodsell claims to be the originator, as he undoubtedly was the first nominal editor, while a worthy gentleman of this city states that it was projected by the same association of gentlemen who formed the Genesee Valley Horticultural Society; and lastly, our worthy and much-respected friend, Luther Tucker, of the *Country Gentleman*, claims that the honor belongs exclusively to him—and there can be no doubt that he was its first publisher and proprietor. In a letter he has written us on this subject, and which the pressure on our columns alone prevents us from giving entire, he says: "The project was exclusively my own—one that I had long contemplated, and which I carried into effect as soon as my circumstances would permit. Not one of the gentlemen you have named ever knew anything of it until it was determined upon, and the time fixed for the commencement of the paper."

Advertisements.—There is an unusual press on our advertising columns this month. We desire to accommodate our advertising patrons, but as our space is very limited we should feel obliged if they would make their advertisements as brief as possible. A short notice in the *Genesee Farmer* attracts more attention than a long one in a crowded weekly. It is not thrown aside as soon as it has been glanced over, but is preserved for reference. On this account, one insertion in a monthly is about equal to four insertions in a weekly. Thus the agent of Grover & Baker's sewing machine writes us: "I find that we get about asmuch benefit from advertising in the *Genesee Farmer* as in the —— —— ——, although the publisher claim a circulation of fifty thousand." In other words, one insertion is nearly equal to four. This is undoubtedly true. The *Genesee Farmer* is an old and well-established agricultural paper, and has the confidence of its readers. We insert nothing of a deceptive character.

It has a very large circulation in *every State and Territory, and in all of the British Provinces*,—larger, we believe, than that of any other similar paper in the world. Under such circumstances, it is easy to get enough advertisements to fill the few pages devoted to this purpose; but this is not our object. We are anxious to make *every* department of the paper interesting and useful, and therefore prefer *short* advertisements of such matter as are interesting to our agricultural and horticultural readers, rather than a few long ones.

April Premiums.—The competition for our April Premiums has resulted as follows:

1.	I. W. Briggs, West Macedon, N. Y.,	$50	for 213	subs.
2.	W. Hibbard, Manchester Station, Ct.,	30	" 119	"
3.	Jonathan Miller, Berrysburgh, Pa.,	25	" 99	"
4.	W. C. Jones, Mt. Pleasant, Iowa,	15	" 77	"
5.	Thomas Magee, Johnstown, Pa.,	14	" 68	"
6.	R. W. Vansise, Waterford, Pa.,	13	" 65	"
7.	J. H. Hanning, Morriston, C. W.,	12	" 63	"
8.	R. W. Sawtell, Woodstock, C. W.,	11	" 62	"
9.	G. B. Rousseaux, Ancaster, C. W.,	10	" 49	"

The premiums will be promptly paid as soon as the successful competitors will inform us what books they wish. The selection may be left to us if desired, and we will send such as we think will be useful.

Agricultural Schools.—The New American Cyclopedia says, "The only private school exclusively devoted to agricultural education, is the Westchester Farm School, commenced at Mont Vernon, N. Y., in the spring of 1856." We are sorry to add, that if this be true, there is no such school now in the United States, for the one alluded to has been given up for want of adequate support. The New York *Tribune* gave this school the benefit of its great influence, as did also the *Working Farmer*, and some other lesser lights; yet, in spite of all this, the public remained strangely apathetic, and the school never had the remotest chance of success. The failure of this, and numerous similar schools which have been started in this country, warrant us in stating that no such institutions can be self-supporting.

A Convention of Agricultural Editors.—Friend Judd, of the *American Agriculturist*, is desirous of having a convention of all the editors of agricultural and semi-agricultural papers, to meet sometime in June, at such place as shall be deemed best. We are in favor of the proposition. Let us have a convention of editors, correspondents, authors, and all interested in the dissemination of agricultural knowledge.

WHEAT TURNING TO CHESS.—We continue to receive a great many articles on this subject. It is impossible to publish them; neither do we see any good that would be accomplished, if they were given to the public. They contain no new facts—nothing that *proves* anything.

A Canadian correspondent, in the February number, states that a board was accidentally blown upon a piece of wheat and the wheat was all turned into chess. Another correspondent, in reply, thinks the board must have been a *chess-board*.

AGRICULTURAL HUMOR.—Of the Amherst, Mass. Cattle show, the Springfield *Republican* says:

"There is a quaint humor in the making up of the committees upon stock, etc., which is a new feature in 'Cattle Shows.' For instance: The committee on cattle, upon the principle that 'He who drives fat oxen should himself be fat,' was composed of eight gentlemen whose aggregate weight is over 2000 pounds! Then the committee on calves (most impudent selection) was wholly composed of members of the last Legislature. The committee on fowls were gentlemen from several towns about here, all of them blessed with the name of Fowles. But the happiest thing, and one that really had a good grain of satire in it, was the committee upon maple sugar. This was made up of 'sweet hearts,' three gentlemen and three ladies who were known to be engaged to be married, being upon it. Poor things! Those who appointed them knew that it was only right that they should nibble a little sugar now, to make some small amends for the future that lies so near before them."

Notices of Books, Pamphlets, &c.

THE NEW AMERICAN CYCLOPÆDIA: A Popular Dictionary of General Knowledge. Edited by GEORGE RIPLEY and CHARLES A. DANA. New York: D. APPLETON & Co. 1858.

This is the great work of the day. It is designed to furnish a condensed exhibition of the present state of human knowledge. Avoiding controverted points of science, philosophy, religion, or politics, it aims at an accurate account of the development of opinion in the exercise of thought, of the results of physical research, of the prominent events in the history of the world, of the most significant productions of literature and art, and of the celebrated individuals whose names have become associated with the conspicuous phenomena of their age.

It is not a dull, dry, lifeless compilation, useful only for reference, but a work adapted to the times, treating not only on subjects which have an historical interest, but also of those whith are now claiming public attention.

Taking for instance the word APPLE, we have not only interesting remarks in regard to its history, but also some statistics of its cultivation at the present time in this country, the diseases to which it is liable, the soils best adapted to its cultivation, an analysis of the tree, and the varieties adapted for general cultivation. So the articles on Arboriculture, Agriculture, Agricultural Schools, Agricultural Chemistry, etc., are not stereotyped disquisitions on these subjects, but were evidently written by men who are acquainted with any recent discoveries throwing light on points not previously understood. We allude to these subjects because they are those in which we are most interested, and because we are pleased to see them so prominent in a work of such a literary and scientific character.

The article on Agricultural Chemistry we have read with great pleasure. It is evidently written by Prof. S. W. JOHNSON, of Yale College. Probably no other man in the country could have written such a clear and impartial review of the present position of chemistry as applied to agriculture.

The *New Cyclopædia* will be completed in fifteen volumes. Price in cloth, $3 per volume; in library leather, $3,50; in half Morocco, $4; in half Russia extra, $4.50. Persons in this vicinity can get the work from D. M. DEWEY, of this city.

FIELD TRIAL OF REAPERS, MOWERS, AND HARVEST IMPLEMENTS, by the United States Agricultural Society, at Syracuse, N. Y., July 18—20, 1857. Edited by B. P. Poore, Secretary of the Society. Boston: BARZEE & CHANDLER. 1858.

The Trial of Reapers and Mowers at Syracuse, under the auspices of the United States Agricultural Society, was probably the best, on the whole, that has ever been made. In saying this, we do not forget that there were several drawbacks—the unnecessary parade, and a cumbrous committee, chosen in some instances not so much for their competency as to give the Trial as much the air of *nationality* as possible—mistakes undoubtedly occurred, yet the Trial was in the main satisfactory, and the report will be read with much interest. The Prizes were awarded as follows:—

MOWING MACHINES.—*First Premium.*—Gold Medal and Diploma—To BALL, AULTMAN & Co., Canton, Ohio.

Second Premium.—Silver Medal—To WALTER A. WOOD, Hoosick Falls, N. Y.

Third Premium.—Bronze Medal—To MARTIN HALLENBECK, Albany, N. Y.

A Diploma for simplicity of construction and solidity of workmanship was awarded to T. D. BURRALL, of Geneva, N. Y.; also to R. L. ALLEN, New York, for his concave knife blade, and general excellence of material and superior workmanship; also to the Buffalo Agricultural Machine Works, for cheapness, and ingenious adaptation of cutter to an uneven surface.

REAPERS.—*First Premium.*—Gold Medal and Diploma—To C. H. MCCORMICK, Chicago, Ill.

Second Premium.—Silver Medal—To WALTER A. WOOD, Hoosick Falls, N. Y.

Third Premium.—Bronze Medal—To WARDER, BROKAW & CHILD, Springfield, Ohio.

Also a Diploma to JON. HAINES, Pekin, Ill., for "Illinois Harvester."

COMBINED MACHINES.—*First Premium.*—To WALTER A. WOOD, Hoosick Falls, N. Y.

Second Premium.—To Buffalo (N. Y.) Agricultural Machine Works.

Third Premium.—To WARDER, BROKAW & CHILD, Springfield, Ohio.

HOOPER'S WESTERN FRUIT BOOK; A Compendious Collection of facts from the notes and experience of successful Fruit Culturists, arranged for practical use in the Orchard and Garden. By E. J. HOOPER. Third edition, completely revised. Cincinnati: MOORE, WILSTACH, KEYS & Co. 1858.

We have alluded to this work in a previous number of the *Farmer*. We are glad the demand for the work calls for a new edition, as it has enabled the author to correct any errors which may have been overlooked in the unavoidable haste of preparing the first edition. The book is handsomely "got up" and there are several excellent plates of fruits, together with portraits of the author, of Dr. J. A. WARDER and of N. LONGWORTH "the father of American grape culture, and the chief disseminator of that most important fact—the sexual character of the strawberry." The book is sent by mail prepaid, for $1.00.

LIFE THOUGHTS, gathered from the Extemporaneous Discourses of HENRY WARD BEECHER. By one of his Congregation. Boston: PHILLIPS, SAMPSON & Co. 1858.

We have in this volume some of the best thoughts of the most popular of living preachers—thoughts which move the heart and fasten themselves in the memory. The publishers will send it pre-paid by mail for $1.

LIVINGSTONE'S TRAVELS AND RESEARCHES IN SOUTH AFRICA. Including a Sketch of sixteen years residence in the interior of Africa, and a Journey from the Cape of Good Hope to Loanda on the west coast, thence across the Continent, down the river Zambese, to the eastern coast. From the personal narrative of DAVID LIVINGSTONE, LL.D., D. C. L. To which is added a Historical Sketch of Discoveries in Africa. Illustrated with numerous engravings. Philadelphia: J. N. BRADLEY, 48 North Fourth street. 1858.

It is entirely unnecessary to speak of Dr. LIVINGSTONE. Though comparatively unknown a year ago, his name is now familiar to every intelligent reader. He is the greatest of living explorers, and his narrative will be read with the greatest interest by all classes in the community.—The edition published by Mr. BRADLEY will be none the less interesting to the general reader from the omission of a considerable amount of scientific matter and minor details. It is an elegant volume of 450 pages, and is sent post paid to any address for $1.25

TRANSACTIONS OF THE MICHIGAN STATE AGRICULTURAL SOCIETY for 1856.

This is a handsome volume of 790 pages, containing the proceedings of the State and County Agricultural Societies. It is highly creditable to the Society and to the Secretary, Prof. HOLMES. We notice among its contents two Prize Essays, one "on the Cultivation of the Potato," by S. B. NOBLE, and the other "On the Breedidg of Sheep," by EDWARD MASON, who also furnishes an interesting article on "Fruit Trees." Mr. NOBLE also furnishes articles on "The Cultivation of Clover," and on "Thorough Draining."

THE GARDEN; A New Pocket Manual of Practical Horticulture; or, How to Cultivate Kitchen Vegetables, Fruits, Flowers, and Ornamental Trees and Shrubs. With an Exposition of the Nature and Action of Soils and Manures, the Structure of Plants, and the Laws of Vegetable Life and Growth, etc. By the author of "How to Write," "How to Behave," etc. FOWLER & WELLS, 308 Broadway, New York. Price, in paper, 30 cents; cloth, 50 cents.

From a slight examination, we think this a most excellent work—and so cheap that every one who cultivates a rod of ground should possess it.

LITTELL'S LIVING AGE.

This excellent periodical commenced a new series April 1st. It is enlarged to *eighty pages*, issued weekly. Price 12½ cents a copy, or $6 per annum. We regard it as the best and certainly the *cheapest* periodical in the world. Published by LITTELL, SON & Co., Boston, and by STANFORD & DELISSER, New York.

ADELE; A Tale by JULIA KAVANAGH, author of "Nathalie," "Rachel Gray," etc., etc. New York: D. APPLETON & Co. 1858.

One of the best novels we have read for some time.

Inquiries and Answers.

STRAWBERRIES.—(WILLIAM THOMAS.) Your question, "What is the best kind of strawberry for general cultivation?" can not be answered. No one variety is best under all circumstances. In this vicinity, if we were confined to one variety for our own use and for market purposes, we should select the *Hooker*. It is a large, handsome berry, of excellent flavor, remarkably productive, and does not require the presence of other varieties to fertilize it. H. T. HOOKER & Co., of this city, can furnish you the plants.

CORN PLANTER.—(R. S., Gorham, N. Y.) One of the best Corn Planters we have seen is "Wakefield's Hand Corn Planter. The price is $5. M. W. SIMMONS, of Brockport, is agent for Western New York. It is sent to any address on receipt of price.

CHINESE HOGS.—(G., Mt. Healthy, Ohio.) We do not know who has any pure-bred Chinese hogs for sale. There are very few in the country. The late JOHN DELAFIELD kept them for some years, but what became of them after his death we do not know. Mr. PARSONS, of Guelph, C. W., exhibited some at the Provincial Fair of Canada West in 1855, and they were the last we have seen. They are too tender to be kept pure for any other purpose than for improving coarser breeds.

PREPARING BASSWOOD BARK.—Will you or some of your correspondents inform me how to prepare basswood bark for tying up buds, etc. I cut some last season, but can make no use of it. WM. PAWLINS.—*Flour Creek, Ky.*

Strip the bark from the trees in the month of June, when the sap is flowing freely, and sink it in water until the inner bark or liber becomes soft and will easily separate, when it may be peeled off and dried, and it is then fit for use.

MOWING MACHINE.—(S. HOBBIE.) We know of no Mower which has been so thoroughly tested and which gives such general satisfaction as KETCHUM'S. It is manufactured at Buffalo, N. Y., by R. L. HOWARD. See advertisement in this number.

BUCKWHEAT HULLS.—(A. C.) They are probably worth about as much for manure as wheat chaff.

THINNING THE FRUIT OF DWARF PEARS.—I was much pleased with the Prize Essay, in the March number of the *Genesee Farmer*, on the "Cultivation of Dwarf Pears." On one point I should be thankful to "Y. Z." for further information. He says "When a dwarf tree is well established, it will set twice or three times as much fruit as ought to be suffered to mature. After the fruit has become fairly set in the spring, it should be thinned by cutting or pinching out the smaller and imperfect fruit, and leaving the rest equally distributed over the tree and upon the different branches. This is quite a delicate operation, and, like pruning, to become perfect in it, requires much observation and experience. If too much fruit is left to grow, the specimens will be small and somewhat without flavor, and the tree will be stinted and exhausted." This is in accordance with my experience. I am satisfied that thinning the fruit is essential to success, but I have been sorely perplexed in the operation by the curculio. After I have thinned the fruit sufficiently, he stings a considerable portion of what is left, and the result is a very thin crop and deformed specimens. What I want to ascertain is this. At what time does the curculio cease to sting the pear, and can not we ascertain which have been stung and which have not? If so, would it not be advisable to let the fruit remain on the tree till the curculio disappears, and then thin out those which are stung? A. B.—*Wayne County, N. Y., April*, 1858.

A WORK ON DRAWING FOR FARMERS' CHILDREN.—Is there such a work for our children, to be obtained, written in an easy and familiar manner, similar to the articles in *Forrester's Boys' and Girls' Magazine for* 1855? No work would add more practical utility to the young farmer's library than a work of this kind. The writer of this has been a reader of agricultural papers since the days of Judge BUEL, of *Cultivator* memory, and has often needed such instruction. It would find a ready sale, and form one of the best works to award as a premium. AN OLD SUBSCRIBER.—*Harpersville, N. Y.*

HOW DOES WATER GET INTO DRAIN TILES?—Will some of your correspondents, in their essays on draining, please tell us how the water gets into the draining tile after it is laid under ground? I can not quite understand how the water gets into such a tube as is described by writers on tile draining. M. P.—*Clarke, Ind.*

RACK FOR FEEDING CATTLE.—Will some of the readers of the *Genesee Farmer* oblige me by giving a plan of a cheap and strong rack for feeding cattle. EDWARD LUNEY.—*Toronto, Iowa.*

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

SUPERIOR LAND PLASTER.

FRENCH & CHAPPELL, 60 Exchange street, Rochester, N. Y., (successors to SHURTLEFF & SMITH, at old stand,) keep on hand, for Farmers' use, Garbutt's Celebrated Land Plaster. Price reduced from last year's rates. One dollar invested in Plaster returns fifty to the Farm. May, 1858.

CHINESE SUGAR CANE SEED.

FIRST quality Georgia Seed, 40 pounds for $8, delivered in New York City; or any larger quantity, 7¼ cents per pound; any less quantity, at 12½ cents, delivered to Express Co. here.

Also, thirty varieties of Flower Seeds (mostly imported,) for 60 cents, or two such packages for $1, sent to any post office in the United States, under 3000 miles, free of postage. Orders promptly filled by return mail. Address

I. W. BRIGGS, Agent Rural Empire Club.
May, 1858.—1t West Macedon, Wayne Co., N. Y.

FOR SALE—10,000 ACRES OF VIRGINIA LAND.

I HEREBY offer for sale privately, about ten thousand acres (10,000) of land lying in the County of Dinwiddie, in the State of Virginia, about twenty miles from the city of Petersburg, and about fifty miles from the city of Richmond.

These lands are made up of eight or ten (8 or 10) different tracts, all of which are well timbered; the arable lands are adapted to the growth of Wheat, Tobacco, Corn, Oats, &c. They may be purchased at from five to ten (5 to 10) dollars per acre, upon long credits, and in parcels to suit purchasers—the same being the lands of which William H. Goodwin lately died, seized and possessed.

Any communications in relation to the foregoing will be promptly answered, giving such further particulars as may be desired, if adressed to the subscriber. JOHN DODSON,
May, 1858.—1t Petersburg, Va.

SIXTEEN YEARS IN THE WILDS OF AFRICA.

DR. LIVINGSTONE'S TRAVELS AND EXPLORATIONS IN THE WILDS OF AFRICA; from the English Edition. The American Edition is now ready for Canvassers and Agents. The book is having a very large sale, some Agents ordering 1000 copies at a single order. The largest commission paid to active Agents

Specimen copies sent by mail, on receipt of the price. $1.25.
J. W. BRADLEY, Publisher.
No. 48 North Fourth-st., Philadelphia, Pennsylvania.

CAUTION.

The attention of the Publisher has been called to spurious editions of this work, put forth as "Narratives of Dr. Livingstone's Travels in Africa." Ours is the only cheap American Edition of this great work published, and contains all the important matter of the English Edition which is sold at $6. May, 1858—1t

WEBSTER'S QUARTO DICTIONARY,
UNABRIDGED.

Containing THREE TIMES *the matter found in any other English Dictionary compiled in this country, or any Abridgment of this work; a* GEOGRAPHICAL TABLE *of* 12,000 *Names;* ILLUSTRATIVE QUOTATIONS, *and other peculiarities and advantages found in no other work.*

PUBLISHED BY G. & C. MERRIAM, SPRINGFIELD, MASS., AND SOLD BY ALL BOOKSELLERS.

From Prof. HAVEN, of the University of Michigan.

If called upon to sacrifice my library, volume by volume, the book which I should preserve longest, except the Bible, is the AMERICAN DICTIONARY OF THE ENGLISH LANGUAGE, by Dr. WEBSTER. E. O. HAVEN.

All young persons should have a standard DICTIONARY at their elbows. And while you are about it, GET THE BEST; that Dictionary is NOAH WEBSTER'S—*the great work, unabridged.* If you are too poor, save the amount from off your back, to put it into your head.—*Phrenological Journal.*

Every *farmer* should give his sons two or three square rods of ground, well prepared, with the avails of which they may buy it. Every *mechanic* should put a receiving box in some conspicuous place in the house to catch the stray pennies for the like purpose. Lay it upon your table by the side of the Bible; it is a better expounder than many which claim to be expounders. It is a great labor saver;—it has saved us time enough in one year's use to pay for itself; and that must be deemed good property which will clear itself once a year. If you have any doubt about the precise meaning of the word *clear* in the last sentence, look at Webster's thirteen definitions of the *v. t.*—*Mass. Life Boat.*

DIOSCOREA—CHINESE RICE POTATO.

THE FRENCH AND AMERICAN INSTITUTES having awarded their Medals for this esculant, and having made reports confirming its vast importance to every farmer "*as more than a substitute for all other Potatoes,*" we now offer it as the greatest vegetable boon ever tendered by God to man, and urge its universal culture upon the Nation and upon the British Provinces. Tubers $5 per 100. Roots $10 per 4 lbs. Directions for culture, which is simpler than for the Potato, will be sent.
May, 1858.—1t WM. R. PRINCE & Co., Flushing, N. Y.

HOOKER STRAWBERRY PLANTS.

NOW is the time to plant Strawberries, and the HOOKER STRAWBERRY is the kind to plant for the following reasons:—

It is a Berry of the largest size;
It is vigorous and very productive;
It is unequalled for quality and beauty,

It has perfect blossoms, and consequently does not require to be mixed with other sorts,

Being the only Berry extant,

which combines in one all desirable excellence, both for the amateur and the market gardener.

The Plants should be set in rich, dry ground, 12 inches apart the rows 2½ or 3 feet apart. Keep all the runners off, if large fruit is desired.

Measure your land, and find the number of plants required, and send to us for them at once by mail or otherwise. Price $1 per dozen—$3 per hundred. H. E. HOOKER & CO.,
May. 1858.—1t Commercial Nurseries, Rochester, N. Y.

BY AMERICAN POMOLOGICAL SOCIETY.

AT the fifth meeting of this National Association, held in Boston, in September, 1854:—

Mr. CABOT, of Massachusetts: "I wish to enquire about *Lawton's New Rochelle Blackberry.*"

Rev. WILLIAM CLEFT, of Stonington, states:—"The *Lawton Blackberry* has fruited with me for the first time this season; it fulfills all its promises, WHICH IS ALL THAT NEED be said of it—Coming just after raspberries, it prolongs the season of small fruits a month or more, and it is a great acquisition. It deserves a place in every garden."

Mr. PINE, of New York:—"It is the most remarkable acquisition; very sweet and delicious indeed, and the hardiest plant possible."

Mr. MAURICE, of New York:—"It is very large, tender, and delicious. I think it is the greatest acquisition we have had."

Mr. CLARK, of Connecticut:—"I never saw anything more productive."

Mr. SAUL, of New York:—"I can corroborate what others have said."

Mr. PRINCE, of New York:—"It is a most remarkable acquisition of the blackberry kind—very sweet and delicious indeed; a great bearer and the hardiest plant possible."

GEORGE GABRIEL, Esq., of Stonington, Conn.:—"The *Lawton Blackberry* has fruited with me for the first time this season. It fulfills all its promises, and deserves a place in every garden."

This delicious fruit, unmixed with the common "*New Rochelle Blackberry*"—for sale by WILLIAM LAWTON,
No. 54, Wall street, New York.

Circulars containing ample directions for planting and cultivating, forwarded by mail, free. May, 1858.—1t

THREE HUNDRED AND THIRTY-SIX PAGES, AND FOUR HUNDRED AND FORTY ENGRAVINGS.

RURAL AFFAIRS.

A COMPLETE ENCYCLOPEDIA in miniature for every man with a Farm, a Garden, or a Domestic Animal—for every place which will grow a flower or a Fruit-tree—for every Purchaser or a builder in the country, and for every household in the city, delighting in representations or looking forward with hopes of Rural Life. Embracing

RURAL ARCHITECTURE,	IMPLEMENTS AND MACHINES,
LANDSCAPE GARDENING,	FARM ECONOMY,
FRUIT CULTURE,	DOMESTIC ANIMALS,
ORNAMENTAL PLANTING,	FARM BUILDINGS,
BEST FRUITS AND FLOWERS,	HINTS FOR CULTIVATORS.

BEAUTIFULLY ILLUSTRATED WITH 440 ENGRAVINGS

By JOHN J. THOMAS, Author of the "American Fruit Culturist," &c., &c. Sent, post-paid, on receipt of $1 in Gold, Postage Stamps or Bank-note, by the publishers,

LUTHER TUCKER & SON,
Albany, New-York.

*** The same publishers have just issued THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1858—a beautiful annual of all Agricultural and Horticultural matters with 130 engravings. Price 25 cents. For the sake of introducing it more widely in every locality, they will send one dozen copies, post-paid for TWO DOLLARS!

☞ AGENTS WANTED to sell the above works in all parts of the country. March, 1858.—3t.

IMPORTANT TO

STOCK DEALERS AND FARMERS.

WE have just completed an entire new set of patterns for

STOCK AND HAY SCALES,

With large platforms—weighing three, four, five, and six tons—

Expressly for Stock and Hay Dealers.

The smallest platform is 8 by 18 feet; largest size, 8½ by 15 feet.

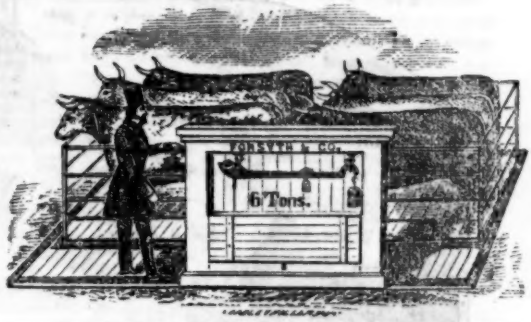
We are selling these Scales at greatly reduced prices—prices to suit the times.

We have Medals and Diplomas from the State Agricultural Societies of New York, Ohio, Michigan, Indiana, Illinois, and Massachusetts, and the Provincial Agricultural Society of Canada.

Any information respecting these Scales may be obtained by addressing FORSYTH & CO.,

No. 15 Water street, Rochester, N. Y.

Rochester, April, 1858.



THE SEYMOUR & MORGAN

SELF-RAKING REAPER AND MOWER COMBINED.

WHAT FARMERS SAY OF IT!—EXTRACTS FROM LETTERS, &c.

"It is simple, durable, and well made."

"It not only cuts well, but rakes off the grain splendidly."

"The grain can be bound with three-fourths the labor that it can when raked by hand."

"My boy, fourteen years old, cut 170 acres with it this season, and did the work better than can be done by the old hand-raking reapers."

"It mows admirably in all kinds of grass."

"I bought one in 1856, cut 240 acres with it, and sold it for what it cost. Bought another in 1857, which worked as well as the first."

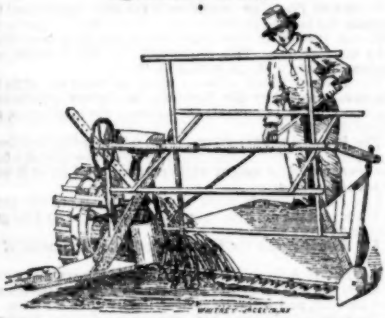
Farmers! if you want to economize in these times, better apply at once to us or one of our agents for one of the above machines.

SEYMOUR, MORGAN, & ALLEN,

May, 1858.—2t Brockport, Monroe Co., N. Y.

FOR THE HARVEST OF 1858.

The best Combined Reaping and Mowing Machine in use, as endorsed by the United States Agricultural Society.



Manny's Patent with Wood's Improvement.

IT is with much pleasure and renewed confidence, that I offer my machine to the Farmers for the coming harvest, with all its improvements and increased high reputation as a combined Machine and single Mower. The large sale the past season, and great success at the National Trial of Harvest Implements at Syracuse in July last, where it was awarded one Gold and two Silver Medals, is conclusive to every unprejudiced farmer that it is the most approved machine of the kind in use, and the subscriber begs to say that they will be perfect and complete in workmanship and material, and are offered to them on terms accommodating and suited to the times. With each machine will be furnished two scythes, two extra guards, two extra sections, one extra pinion, and wrench.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machines as heretofore. The Combined Machine varies in price according to width of cut and its adaptation in size and strength, to different sections of the country, from $125 to $150, delivered here on the cars,

Price of Single Mower, steel bar,.....$115.00

WALTER A. WOOD,

Manufacturer and Proprietor,

May, 1858.—tf Hoosick Falls, N. Y.

A BOOK FOR THE SEASON.

THE GARDEN; A NEW POCKET

MANUAL OF PRACTICAL HORTICULTURE. Everybody who owns or rents a garden, large or small, will find this best of all garden manuals indispensable. It gives full directions for the cultivation of

ALL THE KITCHEN VEGETABLES;
ALL KINDS OF FRUITS AND BERRIES;
ALL SORTS OF FLOWERS AND SHRUBS; AND
ALL THE BEST ORNAMENTAL TREES.

It tells all about

SOILS AND MANURES; VEGETABLE GROWTH; AND
THE STRUCTURE OF PLANTS; WHAT PLANTS LIVE UPON;

and shows

HOW TO PREPARE THE GROUND;
HOW TO SOW SEEDS;
HOW TO CULTIVATE:
HOW TO GRAFT AND BUD;
HOW TO PRESERVE FRUITS AND VEGETABLES;
HOW TO DO EVERYTHING.

It is

POPULAR, RELIABLE, FULL OF INFORMATION,
PRACTICAL, COMPREHENSIVE, VERY CHEAP.

You may readily understand it, easily remember its directions, and without difficulty put them in practice. It is *multum in parvo*, and may be carried in the pocket. Adapted to all sections, and sold everywhere. Orders should be sent in at once. Price, in paper, 30 cents; in muslin, 50 cents.

The Series of four "Rural Hand-Books" to which this belongs—"The House," "The Garden," "The Farm," and "Domestic Animals" will be furnished to subscribers ordering them at the same time for $1. Address

FOWLER & WELLS, 308 Broadway, New York.

May, 1858.—2t

WAKEFIELD'S

HAND CORN PLANTER.

THIS Implement is offered to the Farming community for the *fifth* year with increased confidence in its practical utility. Its *ease, facility*, and *certainty* of operation—its *simplicity* and *durability* of construction—are its distinguishing features, and have secured for it a great reputation.

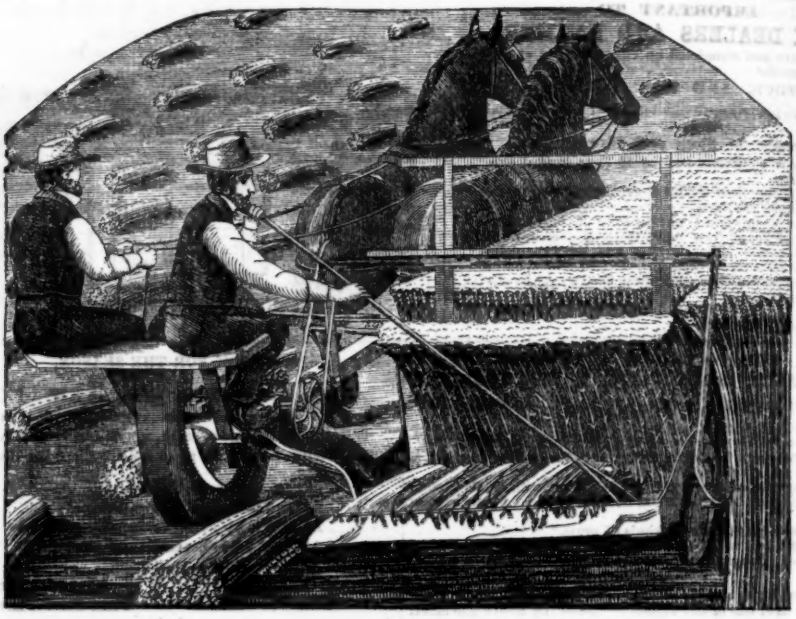
With it a man can plant from *four* to *eight* acres of corn in a day, in the most perfect manner, if used as directed, and for planting beans it is *unsurpassed*.

This Planter is UNLIKE any other now before the public.

This Machine will be sent free of charge to any person in this State or the Canadas, on receipt of the price—five dollars—by

M. W. SIMMONS,

May, 1858.—1t Brockport, N. Y.



KETCHUM'S COMBINED HARVESTER FOR 1858.

THE improvements on this celebrated Machine for 1858 will render it the most desirable machine ever offered to the public. Among these improvements are the following:—

1st. An expanding Reel, very simple and ingeniously arranged so as to be readily attached, and is propelled by the main shaft.

2d. A new, strong, and well-braced guard, which will not clog.

3d. An adjustable Roller with a lever, by which the driver, while in his seat, can elevate the finger-bar and hold it in any desired position, for transportation, to pass over obstructions, and to aid in backing or turning corners.

4th. A Roller in the outer shoe, on which the finger-bar rests, which obviates all side draft and very much lessens the direct draft.

The SIMPLE MOWERS have wrought-iron frames, with all the other improvements except a Reel. With these improvements the draft of the KETCHUM machine is as light as any machine known, and by the test with the Dynamometer at Syracuse, by the U. S. Ag. Society last July, the draft of the reaper was more than one-quarter less than any other of the 13 Reapers on trial. This result is obtained by enlarging the main wheel for Reaping, which lessens the motion of the knives and the actual draft of the machine fully one-quarter.

The VERY BEST MATERIAL is used throughout, and no pains or money are spared to made the KETCHUM MACHINE what the farmer needs.

Sample machines can be seen at all the principal places, and persons are invited to examine them before buying any other—remembering that THE BEST IS ALWAYS THE CHEAPEST.

POINTS OF EXCELLENCE.

AS A MOWER.

1. *Easy Draught* is attained without any loss of momentum and power, which are essential in order to cut grass under all circumstances.

2. *The Machinery and Gearing* is so simple that any person can understand and manage the machine.

3. *Great Strength* is attained in every part, a feature which is indispensable in machinery to be used in rough field work.

4. *Durability* is an important feature, as none but cast and wrought iron of the very best quality is used.

5. *All Side Draught* is obviated by placing the pole in the centre of draught, or near as possible.

6. *The Open Knife or Hole in the Knife Sections* is one of the most valuable patents, to prevent clogging, and belongs exclusively to the Ketchum Machine.

7. *The Location of the Finger-bar*, below the frame, and on a line with the shaft of the main wheel, secures an uniform cut, and causes the finger-bar to follow the tread of the wheel over uneven ground.

8. *The Open Space*, between the heel of the cutters and the main wheel, secured by an arrangement which is patented, prevents the clogging of the machinery by the cut grass on the return swaths. Other machines have a dead point here, shoving and piling up the grass in front, or riding over it and raising up the finger-bar, and some, infringing Ketchum's Patent, secure this same space, so important, by locating the finger-bar before or behind the main wheel, although it is apparent that a location on the line of the shaft secures many advantages not otherwise attained.

9. *The Shield Plate*, or extension of the shoe upward and forwards, from the heel of the finger-bar, is important to equalize the draught and prevent the cut grass from piling up in front of and clogging the machine. This is patented by Mr. Ketchum, and belongs exclusively to the Ketchum Machine.

10. *The Hinged Track Clearer* upon the outer end of the finger-bar, also patented by Mr. Ketchum, is of great importance in cutting heavy grass, to separate the cut from the uncut grass, and to prevent clogging.

11. *The Roller upon the Finger-Bar*, with a lever, ingeniously arranged, to as to sustain the finger-bar to move from the field; also, to bear part of its weight while mowing, and all of it while in the act of backing.

12. *The Finger-Bar* is made of wrought-iron, of the proper width to prevent the cut grass from lodging thereon, and the grass is ALWAYS EVENLY SPREAD.

13. *The Height of the Cut* is readily adjusted by means of the pole bolts.

14. *An Equal Balance* of the machine is always maintained, by means of the seat and other arrangements, so that the machine will not tip over, and will always bear lightly upon the team.

15. One person and even a boy, can always manage Ketchum's Machine. Many others, particularly in heavy grass, require two persons.

16. *The Speed of Team Required* is an ordinary walk of a common farm team, and in many instances oxen have been used on Ketchum's Machine.

THE REAPER COMBINED MACHINE.

The Mower is quickly changed to a Reaper, by enlarging the main wheel by means of circular sections, bolted to the rim, and adding a changeable platform, for the rear or side delivery of the grain.

The following are some of the peculiar advantages of the Combined Machine over all others:

1. *Without any Change of Gear* the knives are elevated and their motion is reduced. This is important, as much greater motion of the knives is required in grass than in grain, and their speed is decreased about one-third.

2 *The Draught of the Machine* is also lessened about one-third, which is of great importance in cutting grain. This is effected by enlarging the main wheel, and lessening the motion of the knives.

3. *The Convertibility of the Platform*, for side or rear delivery of the grain, is very desirable for farmers who wish to leave some kinds of grain in the gravel.

4. *The Strengthening Bar of the Platform*, which is patented, is arranged so as to give any required degree of firmness to the platform, while reaping.

5. *The Reaper is Perfectly Balanced.* The raker's seat, resting upon the main wheel, takes all pressure from the team, and the driver's seat balances the platform, and takes off all side draught.

6. *The Cutting Arrangement is Perfect.* The machine will not clog in grain or grass, wet or dry.

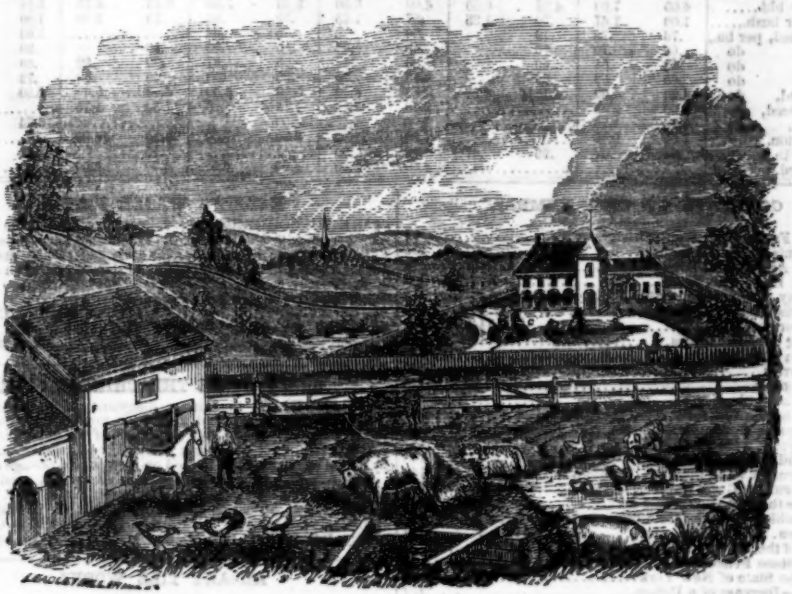
7. *The Compactness of the Combined Machine* is not its least recommendation, and a light pair of horses can easily handle the machine, and cut from 10 to 15 acres of grass or grain per day.

Manufactured by R. L. HOWARD, Buffalo, N. Y.,
May, 1858.—1t (Near N. Y. Central Depot on Chicago st.)

WILLIAM BROWN,
COTE DES NEIGES NURSERIES,
MONTREAL C. E.

BALSAM FIR Seed, or Balm of Gilead, $1 per pound.
Hemlock Spruce, $2 per pound.
Warranted fresh and sound.
European Sweet Briar, for Rose Stocks, two years, $5 per 1,000
European Ash, two years, $5 per 1,000.
Acer campestre, English Maple, two years, $5 per 1,000.
The Sweet Briar takes the bud freely for Rose Stocks, and is offered at one-tenth of the price of Manetti Stocks.

WM. BROWN, Nurseryman,
May, 1858—0t Montreal, C. E.



A, Spring; B, B, Water-course; C, Fountain; D, Pen-stock and Trough: E, E, Sections of Pipe; F, Pipe used to conduct water from roof of Barn.

THE above cut represents a Farm House and Grounds supplied with Water, by using the Tube of the "Cattaraugus Water-Pipe Manufacturing Company." By examining the cut, it will be seen that the Water-Course (B, B,) commences at the Spring (A) on the hill at the extreme left of the engraving, from thence it descends the hill, supplying the House and Fountain (C), and is then carried to the Barn-Yard, supplying the Penstock and Trough (D). In the above engraving, a Pond is represented, for the particular convenience of the pigs, geese, and ducks.

The extreme cheapness of this Water-Pipe places it within the reach of every land-holder in moderate circumstances, and where water is accessible, at the proper elevation, almost any design that convenience or taste may dictate for "water works," can be carried out, by using this Tube, at a much less expense than by any other method.

The Manufactory of the Company is located in this village, and they are turning out from fifty to one hundred thousand feet monthly, and will enlarge to keep pace with the demands of the public. Address I. S. HOBBIE & Co., Rochester, N. Y., or D. ELMORE, Agent, Olean, N. Y.—*Olean Advertiser.*

May, 1858.—1t.

ILLINOIS LANDS FOR SALE.

THE subscriber offers for sale, at low prices and on accommodating terms, 55,000 acres of choice Farming Lands, situated in Central Illinois, in the counties of Montgomery, Christian, Shelby, Macon, Moultrie, Piatt, Sangamon, Fayette, Bond, and Clay. Said lands were mostly selected and entered at an early day, and are very choice selections of rolling prairie or valuable timbered land.

Many of said lands are adjacent to railroad stations, and all are situated within convenient distances of completed railroads.

Said lands are offered for sale in small parcels to actual settlers, on reasonable terms, or will be sold in a body, or by counties, at wholesale rates, on very accommodating terms. The titles are perfect, and all conveyances will be made by warrantee deed.

Persons wishing to purchase any of the above named lands, will please apply to the subscriber, by letter or otherwise, at Hillsboro', Montgomery county, Illinois.

Catalogues of said lands will be forwarded to persons who may request the same. JOHN S. HAYWARD.

May, 1858.—1t*

HEREFORD CATTLE.

A LOT of thorough-bred Hereford-Cattle for sale.
S. M. ELY.
April, 1858.—3t. Ripley, Chautauque Co., N. Y

ROCHESTER CENTRAL NURSERIES.

Send for a Catalogue.

CHINESE SUGAR CANE SEED.—A package of this Seed, containing enough to plant half an acre of land, with plain directions for planting, cultivating, harvesting, and after treatment of the Cane, will be sent, postage paid, on the receipt of *One Dollar.* Address C. W. SEELYE,
February, 1858.—4t Rochester, N. Y.

CRANBERRY CULTURE.

THE subscribers have issued a Circular on the Cranberry and its Culture. They will forward Circulars, free of charge, to all applications. Also will send plants in a fresh state, by express, to all parts of the United States. Price, $5 per 1,000. Address,
SULLIVAN BATES, & CO.,
March, 3t. Bellingham, Norfolk Co., Mass.

A. LONGETT,
No. 34 CLIFF STREET, NEW YORK,

DEALER in Peruvian, Colombian and Mexican Guano, Superphosphate of Lime, and Bone Dust.
November 1, 1857.—1y.

Prices of Agricultural Products at the Principal Markets in the United States, Canada and England.

	NEW YORK, April 24th.	PHILADELP'IA, April 24th.	ROCHESTER, April 27th.	CHICAGO, April 24th.	TORONTO, April 24th.	LONDON, ENG., April 5th.
Beef, per 100 lbs.			$4.50 @ $6.00		$5.00 @ $6.00	$8.25 @ $13.00
do mess, per bbl.	$10.25 @ $11.25	$15.00 @ $17.00		$9.00 @ $11.00		
Pork, per 100 lbs.	6.75 7.50		5.00 6.00	5.00 5.75		10.50 13.00
do mess, per bbl.	18.00 18.50	18.00	16.00 17.00	15.00 16.00		
Lard, per lb.	.11 .11¼	.10 .12½	.10 .10½	.09 .09½		.13 .17
Butter, do	.14 .26	.11 .15	.18 .19	.10 .18	.10 .25	.19 .23
Cheese, do	.08 .09		.07½ .09	.08 .10		.12 .14
Flour, per bbl.	4.05 7.60	4.37 6.00	4.00 5.50	3.25 5.50	3.75 4.75	5.28 5.52
Wheat, per bush.	1.00 1.47	.70 1.25	.87 1.05	.59 .85	.75 1.00	1.30 1.38
Corn, shelled, per bu.	.73 .78	.72	.50 .85	.35 .44		1.02 1.06
Rye, do	.69 .70	.70	.45 .48	.50 .55	.60	.90 1.02
Oats, do	.32 .51	.40	.26 .37½	.25 .27	.30 .32	.60 .54
Barley, do	.65 .68	.60	.40 .50	.25 .40	.40 .50	.72 1.02
Clover Seed, do	4.20 4.60	4.12½ 4.37½	3.50 4.00	5.00 5.50	4.50 5.00	5.00 7.25
Timothy Seed, do	2.00 2.50		2.00 2.50	1.12½ 1.25	1.50 1.75	
Flax Seed, do	1.70 1.75		1.00 1.12½	.90		1.74 1.80
Hay, per ton	7.00 9.00		7.00 11.00	3.50 7.00	9.00 12.00	
Wool, per lb.	.24 .42	.26 .47½	.20 .30		.15	.36 .38
Wood, hard, per cord			4.50 5.50	4.00 6.50	4.00 4.50	

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GENERAL GIFFORD, Jr.

THIS beautiful Morgan Stallion may be found the coming season at the stable of the Subscriber, in Walworth. He is a beautiful chestnut, with no marks. Took the First Premium at the State Fair, and can't be beaten anywhere, not even excepting his splendid sire old General Gifford.

ELIAB YEOMANS,
May, 1858.—2t* Walworth, Wayne Co., N. Y.

KEDZIE'S WATER FILTER.

THE SUBSCRIBERS give notice, they have made arrangements with Mr. KEDZIE, the Patentee of this justly celebrated Filter, to manufacture under his own supervision, and sell at former retail prices, and discount to dealers, as when made by J. E. CHENEY & Co.

For circulars or Filters, address only

JAMES TERRY & CO.,
59 and 61 State-st., Rochester, N. Y.; the old stand of J. E. CHENEY & Co. May, 1858.—3t

SUGAR FROM THE CHINESE CANE.

A PAMPHLET, containing diagrams and specifications of Mills, Machinery, and Apparatus, necessary for working the above Cane, together with a full report of the experiments which resulted most successfully last year, will be furnished gratuitously, by us, on application, or mailed on receipt of a postage stamp.

Sorgho and Imphee Seed for sale. Also, just received from Iowa, a consignment of choice Hungarian Grass Seed, which we are authorized to sell at $2.25 per bushel; or, in small parcels, eight cents per pound.

HEDGES, FREE, & CO.,
May, 1858.—1t* Cor. Main and Water Sts., Cincinnati, Ohio.

ALBANY TILE WORKS.

Corner Clinton Avenue and Knox Sts., Albany, N.Y.

THE SUBSCRIBERS, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities, for Land Draining, Sole and Horse-shoe Tile, warranted superior to any made in this country, hard burned, and over one foot in length. Orders solicited. Cartage free.

C. & W. McCAMMON, Albany, N. Y.
DANA & Co., Agents, Utica.
JAS. WALKER & Co., Agents, Schenectady. April—6

The Practical and Scientific Farmer's Own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XIX, FOR 1858.

Fifty Cents a Year, in Advance.

Five Copies for $2; Eight Copies for $3; and any larger number at the same rate.

☞ All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

☞ POST-MASTERS, FARMERS, and all friends of improvement, are respectfully solicited to obtain and forward subscriptions.

Specimen numbers sent to all applicants.

Subscription money, if properly enclosed, may be sent at the risk of the Publisher. Address

JOSEPH HARRIS,
JANUARY 1, 1858. *Rochester, N. Y.*